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# RT ImagingWorld

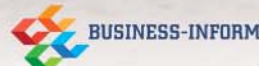
The Most Trusted Name in Print in 5 Languages



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## OEM TACTICS TO CAPTURE MARKET SHARE

— Print-Rite's Philip So reveals  
how the aftermarket responds



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OEM  
STRATEGIES

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Bella Zhang  
sales13@kilider.com



Andy Chen  
sales12@kilider.com



Catherine Zeng  
sales3@kilider.com



Nate Xie  
info@kilider.com



Ashley Chen  
sales10@kilider.com



Winter Xia  
sales8@kilider.com

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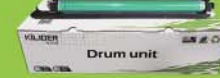
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 5250/5255

CN Invention Patent No.: 202010809272.1  
 US Invention Patent No.: 11054788

**KLD-HP-W1580**

Compatible With: LaserJet Tank MFP  
 1005/1020/2508/2606



CN Invention Patent No.: 202210474297.X

**KLD-TNP90/91**

Compatible With: MINOLTA BIZHUB  
 4050I/4750I, BIZHUB 4700I  
 CN Invention Patent No.:  
 202010518746.7

**KLD-TNP 79/80/81**

Compatible With:  
 MINOLTA BIZHUB C3350I/  
 C4050I BIZHUB C3320I  
 BIZHUB C3300I/C4000I

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**KLD-AP328**

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 328df/328dw/328/320df/320dw/325df/325dw

CN Invention Patent No.: 202110979495.7

**KLD-IM350/430**

Compatible With:  
 RICOH IM350F/IM430F/P502  
 CN Invention Patent No.:  
 201910875611.3

**KLD-FK-S1810/S2011  
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# David Gibbons



I can remember when I bought my first Apple branded laser printer. It cost me \$4,000 which was a lot of money back in 1990. It had a Canon CX engine inside, the laser equivalent of the Canon PC photocopier cartridge. So many

other branded printers used the same Canon engine (under license) in the day. Laser printing was a phenomenon, and everyone wanted to get in on the act.

How times have changed. On January 9, 2007, Steve Jobs announced the new Apple iPhone, and it went on sale on June 29, 2007.

This new device was to become a threat to what many called the “golden era” for printing and consumables. Margins had been high for both the OEM as well as the aftermarket.

The way we print and manage documents today has changed. The new “glass” technologies have not caused the death of printing, as some were predicting. But thousands of small operators shut down. Manufacturers, suppliers, dealers, and retailers. At the same time, the number of printer OEMs shrank considerably, and many argue that those that are left are fighting against obsolescence.

I purchased a brand new, multifunction Canon inkjet printer last month. It only cost me \$124 and its

functions and speed run circles around the Apple Laserwriter I bought back in 1990.

The printer OEMs are now fighting the third-party supplies industry which hold at least 20% of the global market. If you go to growing markets like India,

Russia, China and Africa, the

market size of aftermarket supplies is up to 80%.

So, what are the printer OEMs doing to protect their innovations?

How has this impacted the aftermarket?

I trust you will enjoy the various insights from the contributors from the Americas, Asia, Europe, and Africa in this issue.

Keep in touch!

*Publisher and Director,  
Comexposium Recycling Time Exhibition Services*



#### Publishers

David Gibbons Victoria Zhao

#### Editorial

China  
Maggie Wang <Maggie.Wang@RTMworld.com>  
Tequila Yan

#### Design

Miuling Peng

#### Partners

Latin America  
Gustavo Molinatti <gmolinatti@guiadelreciclador.com>

Europe  
Mark Dawson <Mark.Dawson@RTMworld.com>

Africa  
Stuart Lacey <stuart@delace.co.za>

India  
Dhruv Mahajan <Dhruv.Mahajan@RTMworld.com>  
Swapan Roy <roy@roymediative.com>

Russia  
Business Inform  
Stanislav Malinskiy <malinskiy\_stas@mail.ru>

Egypt  
Arab Print Media  
Walid Qorish <walid@arabprintmedia.com>

#### Offices

Australia  
Sabrina Lo <Sabrina.Lo@RTMworld.com>

Korea  
James Hwang <jdhwang@hotmail.com>

Japan  
Iemori Kanetoyo <kanetoyo@sunwise2001.com>

#### China-Head Office

Level 20, RT Building, No. 55, Pingbei 2nd Road,  
Zhuhai, Guangdong, China  
Tel: +86 (0)756 3220716

#### Subscriptions

Maggie Wang <Maggie.Wang@RTMworld.com>

#### Advertising

Gillian Zhou <Gillian.Zhou@RTMworld.com>

Email: [editor@RTMworld.com](mailto:editor@RTMworld.com)  
Website: [www.RTMworld.com](http://www.RTMworld.com)

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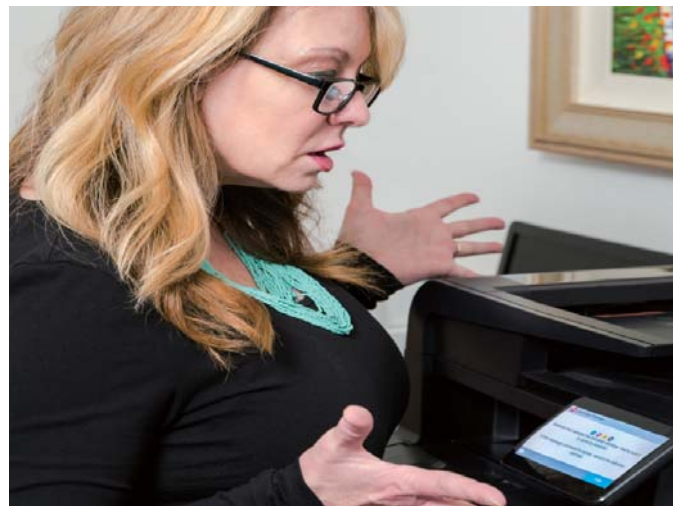
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And Now They Get It ... or do they?



## 04 | FRONT COVER STORY

Why OEMs Use Innovation and Technology as a Barrier and how the Aftermarket Responds



*In its most recent bout of printer firmware updates, HP continues to lock out cartridges which use a compatible chip. This is not a new move by HP, but now stealthy upgrades to its printers stop the use of remanufactured cartridges—which use chips that were originally HP originals brought back to life again. Consumers continue to be outraged at having their choice removed.*

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# Why OEMs Use Innovative Barrier and how the Aftermarket Overcomes It

When desktop printing first took off, there were only a handful of printer models, and many OEMs used the same devices but simply put their own badges and brands on them. Nowadays, there are only a

handful of printer brands, by comparison, but the OEMs launch new printers and new consumables quite frequently.

It is useful to ask if these new products are embedded with new innovations which might benefit end users and/or the environment. Do end users really want all these new printers or is there a reason behind all these new printers hitting the market?

## Cartridges, chips and firmware upgrades

Originally, the OEMs did not put chips on their inkjet and laser toner cartridges. Then, in the 1990s some OEMs started to add a simple memory chip to their cartridges. The functions of these chips were to store cartridge information, such as ink or toner levels and manufacture dates and to communicate with the printer.

Then, third-party manufacturers started to offer cost effective

Philip So has been with Print-Rite for 22 years and is Chief Engineer. He holds a Master's Degree from the University of Hong Kong, is a Member of the Hong Kong Institution of Engineers [MHKIE] and is a High-level (Level 1) Innovative Talent (Level 1) recognized by the Zhuhai, China government. <[philipso@print-rite.com.cn](mailto:philipso@print-rite.com.cn)>

Philip So points out the obvious difference with Print-Rite's aftermarket solution to the barrier set by the printer OEM.

# on and Technology as a ermarket Responds

✍ Philip So

remanufactured or new build compatible cartridges to end users and captured market share from the OEMs. In response, the OEMs started to develop sophisticated micro-controller chips with encryption technology and placed them on their cartridges. Was having these costly, encrypted chips for the benefit of end users?

Of concern to end users, however, is not knowing what personal information was being captured and stored in these "black box" chips. Should the end user destroy these chips before they dispose of the used cartridge?

By using encrypted chip technologies, the OEMs managed to delay the entry of aftermarket chips and third-party cartridges from reaching the market by at least one if not two years. The OEMs have enjoyed this monopoly period to sell their expensive cartridges.

Once aftermarket chips were researched and developed and made available, the OEMs started to upgrade their printer firmware frequently. This caused cartridges using aftermarket chips to not work properly in OEM printers.

To what extent will the printer OEMs go, to continue with technologies like this? Recent rumors suggest the OEMs will use cloud connected chips to authenticate a cartridge when it's

installed in a printer. Again, do end users really need a higher cost, cloud-technology-chipped cartridge? Who is getting the benefit here?

## **The twisted triangle, dongle driving gear**

Originally, the OEMs used a simple coupling mechanism to drive the toner cartridge in the printer. Then, the OEMs started to use a twisted triangle coupling mechanism to drive the toner cartridge in the printer.

The aftermarket took on the challenge and researched and developed a design around solution: the "No-twisted gear." Even before the twisted triangle gear patent had expired, the OEMs developed and started to use an even more complicated coupling mechanism, known as the dongle gear.

The ongoing development and advancement of these technologies increases the cost of a cartridge and it's the end user that needs to pay for it. Why do the OEMs put a lot of effort into engineering and focus on intellectual property lawsuits on the driving mechanism of a toner cartridge? Why was there a need to alter the driving mechanism from something simple that worked, to a more complicated mechanism?

A laser printer can only work with an effective coupling mechanism with the printer cartridge. So, the invention and patenting of the dongle gear allowed the OEMs to pursue lawsuits with those who infringed while delaying the development of non-infringing third-party consumables.

Most of the aftermarket copied the OEM design. Very few, like Print-Rite put in engineering efforts to develop a "no inclination dongle gear" which would not infringe OEM patents while working properly in the printer. It did delay product time-to-market and increased costs.

End users just want a good quality, easy to use, low-cost toner cartridge. It is not difficult to establish who was the only beneficiary of the twisted and dongle gear technologies.

## **Chemical toner powder**

Conventional toners, which use electricity to pulverize the material into small particles mechanically, were the first to be used. With new advancements, some OEMs use chemical toner powder in the toner cartridge instead. Chemical toner production methods are either suspension polymerization or by emulsion aggregation.



Print-Rite's reddish-brown zero-twist gear (left) is a complete redesign of the OEM patented dongle gear (white, right).

Chemical toner production uses a significant amount of water in the production process. Additional energy is required to recover, treat, and release the water back into the environment.

The truth is some OEMs invested heavily in the development and production of chemical toners. It is not an energy saving strategy and the huge amount of water used to produce chemical toners is an environmental concern.

Has the development of chemical toner become a technology barrier for aftermarket? Recent aftermarket advances in lower melting point resins and pulverization and sphereolizing techniques allow for the more efficient manufacturing of conventional toner to generate smaller and more consistent

particle sizes within a narrow particle size distribution. These improved aftermarket mechanical toners can be a cost-effective alternative to chemical toner.

### Regional inkjet and toner cartridges

Another OEM strategy is to develop a unique cartridge to only work in select regional markets. They contain a regional chip and a regional mechanical structure.

These regional printers and cartridges increase the manufacturing, logistics, and SKU management costs. The OEMs do it because it makes remanufacturing more difficult however, it causes more waste to end up in landfill.

Both the aftermarket and end users recognize the disadvantages and prefer to use a universal cartridge.

The aftermarket developed universal, compatible cartridges by changing the cartridge structure and adding a universal chip. Distributors also enjoy having less SKU management.

### Over-engineered cartridges

The OEMs have over-engineered the printer cartridge which do have additional features and components that improve performance. However, being more complex has increased the costs.

### Listening to end-users

We all know that those involved in product development and technology advancement need to listen to the end users' voice. Do end users need a cartridge with a sophisticated chip and a complicated dongle gear drive? Do they need chemical toner? Are they wanting an inkjet cartridge to print less than 100



pages and a toner cartridge to only print 1000 pages?

The "razor-and-blades" business model used by the OEMs means they must try to stop the use of third-party compatible cartridges. They will use technology and intellectual property rights barriers. What they really want is to sell more "low page yield" cartridges at higher costs.

There are some excellent aftermarket manufacturers. They respect OEM inventions. They have also inventions of their own which benefit end users and the environment.

Print-Rite, for example, is a pioneer of refillable toner and inkjet cartridges. These allow end users to refill their toner and ink which help them to save money and help the environment.

Some Print-Rite inventions include:

- "Continuous ink supply system" (CISS) which allow users to print more than a thousand pages instead of hundred pages with an OEMs ink cartridge.
- The "Smartact" cartridge (featured on the front cover of this magazine) has the waster hopper removed and it continuously reuses any surplus toner without it ending up being thrown away.
- "No waste toner" toner cartridge which reuses the waste toner allowing the user to use all the toner in a toner cartridge and providing a six-fold page yield.
- The "Foamless ink tank" design can increase ink content with the same cartridge foot print. It reduces residue unused ink.

The aftermarket puts a lot of effort into reducing costs. They redesign the toner cartridge to be made on automated production lines to lower production cost while providing consistent high-quality cartridges. There is no need to copycat the OEM designs.

Innovation, technology advancement and intellectual property should bring better products to end users and the environment. They should not be weaponised for the sake of competition.

The aftermarket respect the OEMs' inventions and intellectual property rights and will continue to offer better non-infringing workaround solutions for end users. The OEMs can consider competition and innovation from the aftermarket sector as motivation to improve. ■

# Chips and Firm and Lock Out S



Adrian Rees is a seasoned professional in the field of electronics and IT support, and he brings a wealth of experience and expertise to his role as global technical director at Static Control. Over the course of his five-year tenure with the company, he has been responsible for overseeing a range of critical functions, including global technical support and quality control. Drawing on his extensive knowledge of best practices and industry standards, he works closely with in-factory teams in China to ensure that Static Control's products meet the highest levels of quality and reliability. Additionally, he provides critical technical support to teams in the US and UK, helping to troubleshoot issues and ensure that customers receive the best possible service.

UPDATE

# Firmware Updates, Strategies

✍️ *Adrian Rees*



Everyone in the printing industry is talking about the chips placed on toner and inkjet cartridges. It is an impossible topic to avoid. Those little, green, thinking machines are embedded on just about every cartridge that OEMs manufacture these days. Why is that? On one hand, the chip can provide a lot of useful information to end users such as toner low/toner out messaging, the number of pages remaining and more.

However, the other side of the coin is that the chip can be used by the OEM as a gatekeeper to make it difficult for consumers to choose premium, non-OEM cartridges.

## OEM Tactics

OEMs feel the pressure of the aftermarket eroding their market share, so they are trying to block the use of fully functional third-party cartridges by any means necessary. The most common way to do this is through firmware updates.

Firmware is the “mind” of a printer. It is software within the printer that tells it what to do. Printer manufacturers can issue firmware updates that improve performance and expand compatibility for various software and operating system upgrades, but in most recent cases, the update is really a weapon against the aftermarket.

HP has been especially aggressive using firmware updates, particularly in some of their newer W2020/30/40 and CF258/9 series cartridges. However, the practice of OEMs using firmware to lockout the aftermarket goes back many years.

We are seeing firmware being delivered in a whole host of new ways, many of which the consumer has no understanding or knowledge of and is surprised when the same cartridge that

they were printing with when they left the office, suddenly does not work the next day.

It used to be that a firmware update was released, and consumers had to accept the terms and actively update their printers. Now, you have firmware that is delivered without notice. For example, the time-bomb firmware is loaded into the printer either at the factory or through other means and it is triggered to go off at some point in the future. You have firmware that is on the chip on the cartridge that, when installed, updates the firmware on the printer. In addition, you also have incidents where people have signed up, intentionally or not, to a program that commits them to an automatic firmware update that is pushed to the printer via the web.

Consumers are pushing back, and you see that in the class action lawsuits. Static Control tells our customers, “Do not update your printer firmware!” All the OEM messaging says you must update your printer firmware under the guise of security issues. Static Control is saying you do not have to do that, as we have said for many years.



An interesting development was when Canon started shipping products without chips last year when chips were in short supply around the world. This takes away from the OEMs' argument that firmware is required for security reasons. Are they saying to customers, "Oh you don't need it now, but you'll need it at other times?"

### Dynamic Security

In addition to firmware, many new HP printers use dynamic security features that are specifically developed to block the use of fully functional aftermarket cartridges that use non-HP chips.

HP has been open about the purpose of dynamic security measures, stating "Dynamic security equipped printers are intended to work only with cartridges that have new or reused HP chips or electronic circuitry. The printers use the dynamic security measures to

block cartridges using non-HP chips or modified or non-HP electronic circuitry."

(Scan the QR code for details)



This is an interesting tactic from HP, especially since it has been challenged in courtrooms around the globe with limited success. Plus, these features have led to lots of customer frustration.

A quick internet search will lead to many Community/Help pages filled with customer posts of asking about why their third-party cartridge will no longer work or complaints about an update that took away their ability to choose something other than high-priced OEM cartridges.

Static Control agrees and understands the frustration of many HP customers and wants to help educate end users on how to disable some of these

measures to help facilitate the use of fully functional, premium aftermarket cartridges.

### What are Cartridge Policy and Protection?

These are two "Dynamic Security" features in HP printers that make it difficult to use fully functional, third-party cartridges, in addition to making it more difficult to move cartridges from printer to printer.

Cartridge Policy locks the end user to using only original HP cartridges in the printer. No aftermarket cartridges will work in the printer until this is disabled.

Cartridge Protection permanently associates toner cartridges with a specific printer so they cannot be used in other printers. When this is enabled, it negatively impacts the spent chip market. This feature will restrict the re-use of a spent OEM chip.



There is some good news for the aftermarket. Some of these features can be disabled. Static Control has a list of best practices that we suggest to all customers, especially those who use HP printers.

### Best Practices

Static Control advises consumers to do the following to help protect their ability to use aftermarket cartridges.

- 1) Disable automatic updates – Many HP printers have the ability to disable automatic firmware updates by navigating through the Printer Maintenance section of the Main Menu.
- 2) If possible, disable cartridge policy and cartridge protection – This can be disabled in the Supply Settings section of the Menu on the device.
- 3) Allow Downgrades – Be sure your printer can downgrade firmware.

This is also an option in the Printer Maintenance section of the Main Menu.

- 4) Keep a known, working firmware saved on your desktop or USB drive – If you have a printer that is currently working with aftermarket cartridges, be sure to save a copy of the firmware in a place where you can retrieve it. That way, if a firmware update takes place on your printer, you can revert to a firmware version that does work with aftermarket cartridges. The OEM will not necessarily provide access to older firmware versions on their website.

### The Static Control Solution

Static Control has a long history in chip development. Static Control was the first aftermarket supplier to offer replacement chips, and quickly became

a powerhouse in the industry. In 2004, it released its patented universal chip, allowing for one chip to be used in multiple cartridge SKUs.

In 2011, Static Control released an aftermarket chip for the Lexmark T650. This highly encrypted chip was embedded with many different layers of security and took significant effort to reverse engineer a functional aftermarket chip.

Even today, the company prides itself on offering the most firmware-resistant chips to the aftermarket. We try to proactively stay ahead of potential lockouts. Even when an issue arises, a solution is discovered quickly, and local reprogramming can occur.

Static Control frequently advises its customers on best practices when it comes to avoiding firmware lockout and dynamic security features. ■

# HP Continues i Campaign ove



David Gibbons is the publisher of this magazine and is a director of RT Media Ltd. You can watch Gibbons share his messages on InTouch TV: <http://bit.ly/inTouchTV>

HP has made fresh claims that the microchips used in aftermarket printer cartridges may be a gateway for hackers to access the data of end-users.

It was a claim HP made back in late 2020. Many saw that at the time as a “scare campaign” attempt by HP to win customers back, and away from the use of third-party supplies.

However, the scare campaign has re-emerged as HP attempts to remove choice from its customers wanting to use third-party supplies in their printers. The new

claims go hand in hand with the alleged ongoing need for firmware upgrades that are another strategic tactic to prevent users from using third-party supplies, limiting consumer choice.

According to *Actionable Intelligence*, three key HP personnel recently and exclusively shared results from HP’s Bug Bounty program revealing third-party cartridges with a reprogrammable chip could be hacked.

Top level staff allegedly reported “hackers can use reprogrammable cartridge chips to gain a backdoor through printers to larger IT networks.” They revealed that a researcher in HP’s Bug Bounty program



# ts Cyber Scare r Chips

✍ David Gibbons

had managed to break into a printer using a third-party inkjet cartridge with a reprogrammable chip. Consequently, HP conducted firmware upgrades to its customers to remedy some found security flaws—in September 2022.

## Flaws are in the Argument—Not the Chips

HP claims the third-party chips are vulnerable to hacking because they are “reprogrammable.” The reason they are reprogrammable, of course, is that HP continues to alter the code in its customers’ printers through stealthy firmware upgrades.

However, this is the point that is being overlooked: the chips in HP’s printers are also “reprogrammable” otherwise they would not be able to be upgraded.

If HP claims chips in printer cartridges are vulnerable to hackers because they are reprogrammable, then surely, logic suggests that their printers are also vulnerable to hacking because they contain “reprogrammable” chips too.

The top-level HP staff reported that the same researchers in HP’s Bug Bounty program had unsuccessfully tried to hack into HP’s robust printer chips. They failed. Consequently, HP claimed its chips contain enhanced security protections. That is good to know. HP’s customers can be comforted in knowing the sophisticated “reprogrammable”

chips in their printers cannot be hacked.

It should also be noted that the researchers, developers, and manufacturers of third-party chips also conduct rigorous security testing to ensure information security. They invest extensively in maintaining the security of the chips they use in printer cartridges.

Following the recent firmware upgrades to printers, to plug the flaw mentioned above, HP staff were asked, “Well now that we have fixed it, are we good to go with non-HP cartridges?” The reply given was “third-party chips may still pose a risk.”

The staff used the word “may” because, quite rightly, HP does not control third-party chips. But they could not convincingly argue that third-party chips were a risk either. Certainly, no more than the “reprogrammable” chips used in the printer.

## Why Do Printer OEMs Use Chips?

The aftermarket has continued to provide choice for consumers by offering third-party supplies. Globally, they have attracted a very lucrative 10% market share for color and up to 30% for monochrome consumables.

With the advent of smartphones and tablets, the demand for printing devices and supplies in the world’s two largest markets—North America and Western Europe—declined. Documents could

be shared digitally and the decline in printed pages was not offset by the growth of printing in developing regions of Latin America, Central Europe, Asia and Africa.

The only way the OEMs could satisfy their shareholders was to grow their markets by clawing back market share that was still being captured by the aftermarket.

Inkjet and toner cartridges have not always contained chips. Before 2000, no chips were used with toner or ink cartridges. The first chips were used on ink cartridges. They were very simple by today’s standards and were used by the printer OEMs to allegedly establish better communication between the cartridge and the printer to ensure a better user experience in terms of quality and page yield.

However, the aftermarket was immediately locked out. It did not have chip technology capability to provide a solution for its remanufactured cartridges. The OEMs seemed to have “won” back their lost markets.

These chips have often referred to as “killer chips” because they prevented the use of aftermarket cartridges that contained no chip or relied upon reusing the existing chip.

All the printer OEMs began to install chips in their supplies and consumers

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Any questions, please contact: Cecile Zheng

+86-756-3959286

[Cecile.Zheng@RTMworld.com](mailto:Cecile.Zheng@RTMworld.com)

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RT



were forced to buy the more expensive OEM supplies. Trade associations sprung up in almost every country so aftermarket cartridge “remanufacturers” could work together to find solutions. Remanufacturers argued the killer chips were a threat to “choice” for consumers, who would be forced to use OEM cartridges only. But from an OEM perspective, the arguments fell on deaf ears.

The development of smarter, smaller chips continued and by 2015 they had become quite sophisticated. The use of chips had impeded the growth of the competing aftermarket supplies in the past and it could continue to do so with the newer chip designs that used sophisticated algorithms. The aftermarket spent significant resources of money and time to find workaround solutions and was able to keep third-party supplies as a viable alternative.

### Why do OEMs Use Firmware Upgrades?

Printers were then deemed to be a gateway for hackers wanting to access personal, corporate and confidential data from companies and individuals. Beginning in March 2017, some OEMs began to launch firmware updates which were sent invisibly through the internet to change the coding in printers and cartridges. The OEMs argued these irregularly timed updates provided users with a better printing experience by

providing dynamic security updates to prevent inappropriate hacking of data.

However, consumers found that their third-party cartridges failed after the firmware updates were activated. Again, frustrated users complained about being “locked out” by having cartridges that simply would not work.

Yet again, the aftermarket responded and developed strategies to update third-party supplies to enable them to be used. Convenient, innovative, environment-friendly and remote upgrade solutions were developed and launched to address the frequent firmware updates.

Then, in 2022, an interesting development took place. Canon started shipping printers without chips at a time when chips were in short supply around the world. Surely, this takes away from the OEM argument that firmware is required for security reasons. They may not have realised it, but what they were saying to customers, “Oh you don’t need security now. It’s not that serious but maybe later you will need it.”

Consumers have had enough. Class actions lawsuits and legal challenges have already provided some consumers with small wins against the printer OEMs. You can expect to see more such cases taking place in the future if printer OEMs continue to “lockout” their customers from having a choice when it comes to supplies. ■

## IN MY VIEW

As an aftermarket business, why aren't you concerned about OEM strategies to capture your business?



Germany

**Scott Odom**

Director of Sales EMEA, Ninestar Imaging Tech Limited

In order for the aftermarket to survive we must depend on the OEMs to continuously launch new machines. In doing so, they need to protect their market share. I believe that consumers should have a choice. There is always going to be consumers who will only use OEM products and others who will prefer third-party supplies. As an aftermarket supplier, it is our job to convert consumers by explaining the benefits and offering a full program of after sales support.



U.S.A.

**Graham Galliford**

Consultant, Galliford Consulting & Marketing

I’m not afraid of OEM strategies to capture and diminish aftermarket business. Success as an aftermarket business is based on the value proposition offered by the alternatives that the after market presents. Success lies in providing quality performance of printer supplies at an attractive cost to the end user. The companies that are successful in the long term are those that provide the combination of these factors.

# IN MY VIEW

As an aftermarket business, why aren't you concerned about OEM strategies to capture your business?



U.K.

**Steve Weedon**  
EEO, Print-Rite Europe

I don't believe the OEMs are trying to recapture our business. It's business lost that they will never be able to recapture. Our customers, for example, know the Pelikan brand is an alternative to the OEM product. Our products produce the same, if not better, performance. They are cheaper than the original and better for the environment than the original. Our biobased or eco-friendly extended yield products use special "no waste" technologies. The OEMs don't have that technology.

The OEM is focused on retaining its market share, however, with frequent new chip firmware upgrades that render aftermarket products useless until a new chip is spun. It's a game in which the OEMs continually underestimate the ingenuity and resilience of aftermarket companies which will continue to win 20% of the business.



Germany

**Volker Kappius**  
CEO, Delacamp

The genuine aftermarket that focuses on office imaging equipment and cartridges is concerned about OEMs capturing our cartridge market share. HP is cutting our cartridges out of managed print service-based contracts. Aftermarket cartridges that reuse the original HP chip, for example, will not show any meter readings or supply status crucial for the necessary management of MPS contracts. Lexmark, on the other hand, is cutting every genuine remanufacturer out. I do believe Lexmark will become less of a concern because large companies and the public sector are having increased security concerns with the huge amount of encrypted data being gathered on internet-connected Lexmark devices.

## 16 | ANTI-TRUST LAWS



*"You want answers?! I want the Truth! You can't handle the truth!" "Lieutenant Jessup, A few Good Men (1992)*

*"And get ready, 'cause this Sh\*\* is about to get heavy" Eminem, lyrics from Without Me (2002)*

Let me quote a few sentences from the FTC website<sup>1</sup> on Antitrust laws.

"The Sherman Act outlaws 'every contract, combination, or conspiracy in restraint of trade,' and any 'monopolization, attempted monopolization, or conspiracy or combination to monopolize.'

Long ago, the Supreme Court decided that the Sherman Act does not prohibit every restraint of trade, only those that are unreasonable.

The Federal Trade Commission Act bans 'unfair methods of competition' and 'unfair or deceptive acts or practices.'

The penalties for violating the Sherman Act can be severe. Although most enforcement actions are civil, the Sherman Act is also a criminal law, and individuals and businesses that violate it may be prosecuted by the Department of Justice. Criminal prosecutions are typically limited to intentional and clear violations such as when competitors fix prices or rig bids. The Sherman Act imposes criminal penalties of up to \$100 million for a corporation and \$1 million for an individual, along with up to 10 years in prison."

You want to know how this legislation plays out in the real world?

The Department of Justice (DOJ) is currently using these laws to sue Google<sup>2</sup> for monopolizing Digital Advertising technologies.

TLDR (too long didn't read)? Let me summarize it for you:

Basically, the DOJ is alleging Google is a monopoly platform and suppresses competing products and services from appearing highly (or at all) in its ranking and instead that they elevate their other products, services and companies instead.

Here is another case<sup>3</sup>. The Department of Justice vs Apple: (Scan the QR code for details)



The DOJ is investigating if Apple's policies for third party apps on its devices unfairly favor their own products.

Let's imagine a completely made-up scenario of what is going on:

Let's pretend that every time a techno-giant (like Apple) issues a firmware update on its phones. As a result, all of the third-party apps on the phone you purchased stop working: apps like an alternative camera, editing software, maps and navigation programs, and fitness trackers. Apps that compete with the techno-giant's own apps.

Then imagine, every time a firmware update came out, your phone automatically installed it because the phone manufacturer decided it was better for you this way. They would claim that it provided security and protection against hacking. Never mind that for the last twenty years, every other techno-giant followed the accepted industry standards of making firmware updates available to be downloaded and then you decided to install them. They must have realized that changing the paradigm was better for them for some reason..... Ahem

# OEM Firmware Strategies Potentially Violate US Anti-Trust Laws



✍ Christian Pepper

'them', I mean better for the customer, right?

But don't worry, you can turn this feature off. Its conveniently located in two or three places hidden deep inside the settings. It's a fun challenge which is why there is no support or "how-to video instructions." It could easily take you 20 minutes and you'll only get it wrong a couple of times. Not frustrating at all.

And anyway – all of this is completely coincidental – not deceptive at all. Nor is it an unfair method of competition as outlawed by the Sherman Act. That's what the army of lawyers said ... Quite the opposite in fact: it's totally reasonable that you can lose all the products you purchased if you want your Techno-giant designed phone to be safe!

Then comes the final coup de grace—the 'get out of jail free card.' This is all the consumer's fault: you agreed to all of this when you first purchased and setup your phone. It was clearly explained in legal speak in the 20-page user agreement that you scrolled past and clicked "OK" to. You idiot.... You really should pay closer attention next time you buy something.

That's the end of the pretend story. Well, the good news is that Apple isn't doing any of these things that appear like obvious violations of the Sherman Act. Rather they are being investigated simply because the DOJ thinks they are just favoring their apps over competitors....

But wait, what if you were to take this completely fictitious and made-up scenario and changed the brand name from Techno-giant to a printer OEM?

Nah, nope, it's probably nothing. Let me go polish my tin foil hat....

## Post script:

If this article got you thinking and you want to act, here are a couple of options:

1. If you work for, or closely aligned with a printer OEM and have evidence that their firmware strategy violates the US Anti-Trust laws, you can report it as a General Trade Practices complaint and be eligible for a Whistleblower reward/percentage of the fines levied by DOJ<sup>4</sup>: (Scan the QR code for details)
2. You can learn more about US Anti-Trust laws and file a complaint with Department of Justice<sup>5</sup>: (Scan the QR code for details)



1. <https://bit.ly/antitrustlawsftc>
2. <https://bit.ly/googlesuedbydoj>
3. <http://bit.ly/3KJdBcH>
4. <https://bit.ly/reportanddisclaimer>
5. <https://bit.ly/3KJ0Ldp> ■

*Christian Pepper has been in the office printing industry since 1996. He has held OEM and Aftermarket hardware and consumables management and executive positions. In all roles he has been passionate about helping resellers increase their revenue and profitability. He is currently responsible for leading the Channel Partner Division at LD Products, the world's largest online aftermarket consumables retailer.*

# IN MY VIEW

As an aftermarket business, why aren't you concerned about OEM strategies to capture your business?



**Singapore**

**Ricky Lee**

Senior R&D (Sales Support) Manager, EOP21

It's not a threat to us because we target different customers. Our resilient EOP21 brand identity has been established over many years giving us a strong customer base and relationships with distributors and resellers. We align ourselves as an "Alternative to the OEM" brand when it comes to offering world class toner products, cost-effective solutions, and quality assurance. We also offer customised toner solutions to our customers including multi-brand toners, darker prints, high gloss and differentiated packaging in refill bags and bulk. Having said that, we continue to keep tabs on the OEMs and competitors. You must if you are to stay competitive.



**U.S.A.**

**Craig Trietiaik**

President, Northeast Toner, Inc.

My company remanufactures our toner cartridges and we are not reliant on third party toners from other countries. So, we do not have the same issues as do most. The new firmware updates from HP don't impact us either. We reuse all the chips that might get blocked. It's our way to stay with and ahead of the OEM.



**Japan**

**Iemori Kanetoyo**

Sunwise Information Corporation

Many in the aftermarket are concerned about OEM strategies to capture their business. However, they are not necessarily in direct competition with each other. OEMs focus on producing and selling new products, while the aftermarket should be focusing on providing services and products for existing products. Therefore, they have different business models and target different customers. So, if an aftermarket business concentrates on providing good service and competitive prices for customers, it is not necessary to be excessively concerned about OEM strategies.

# Why OEMs N the Aftermar



For over 20 years, Dennis Haines has run businesses in Europe, US and Asia Pacific for two multinational companies. In 1999, he started selling inkjets and then toners in the UK and Australia later adding partnerships in other countries. Frequently visiting China for 20+ years, he has witnessed the growing pains of factories large and small. He can be contacted at <dennis.haines@badgeroffice.co.uk>.

The challenges we face in our market are common across many industries. Vacuum cleaner companies only want us to use their bags. Car companies only want us to use their spare parts. Razor companies only want us to use their blades.

Tesla is now being criticised by its customers for not licensing its diagnostic software to independent service companies. Car manufacturers make more money from parts/service than selling new cars.

Printer companies lose billions of dollars selling printers but make huge profits selling cartridges.

In each of these cases the OEM is motivated to protect its aftersales revenue and margin.

## Strategies

Back in the 1990s, manufacturing aftermarket cartridges was “easy”:

- Ink tanks: a plastic case, sponge and

ink, and no chips. It was easy for any factory to manufacture them. The print heads, which are protected by patents, are in the printer and not the cartridge.

- Print head ink cartridges: Each new cartridge comes with a new, expensive and complicated print head. Factories collect empties, clean, refill, test and then resell them.
- Laser toner cartridges: factories collect the empties, replace any worn components, fill them with toner, test and then resell them.

25 years ago, there

were less than 20 inkjet and laser toner factories in China and the aftermarket had a tiny market share compared to the OEMs. OEMs focussed on eliminating those counterfeit cartridges which

were sold in OEM look alike packaging—which was a very profitable game for rogue China factories at the time.

Slowly but surely  
aftermarket inkjets/toners

gained  
market share with OEM  
inkjets selling for \$20  
and only costing  
\$0.50 to make. For  
aftermarket ink  
or laser toner  
factories,  
distributors



# Need to Fight Back

✍ *Dennis Haines*

and dealers, the barrier to entry was very low.

The main OEM weapon against the aftermarket was to spread FUD (Fear-Uncertainty-Doubt) to consumers, saying aftermarket cartridges don't work and will destroy your printer. That ploy worked for a while. In the USA, the UK, and Germany, and some other countries, some strong

companies were able to convince dealers and end users to try aftermarket cartridges. They proved they worked, did not damage printers

and had unbeatable cost savings.

OEM sales were mainly in large developed markets including the USA, Germany, Japan, the UK and Europe with high prices and huge margins.

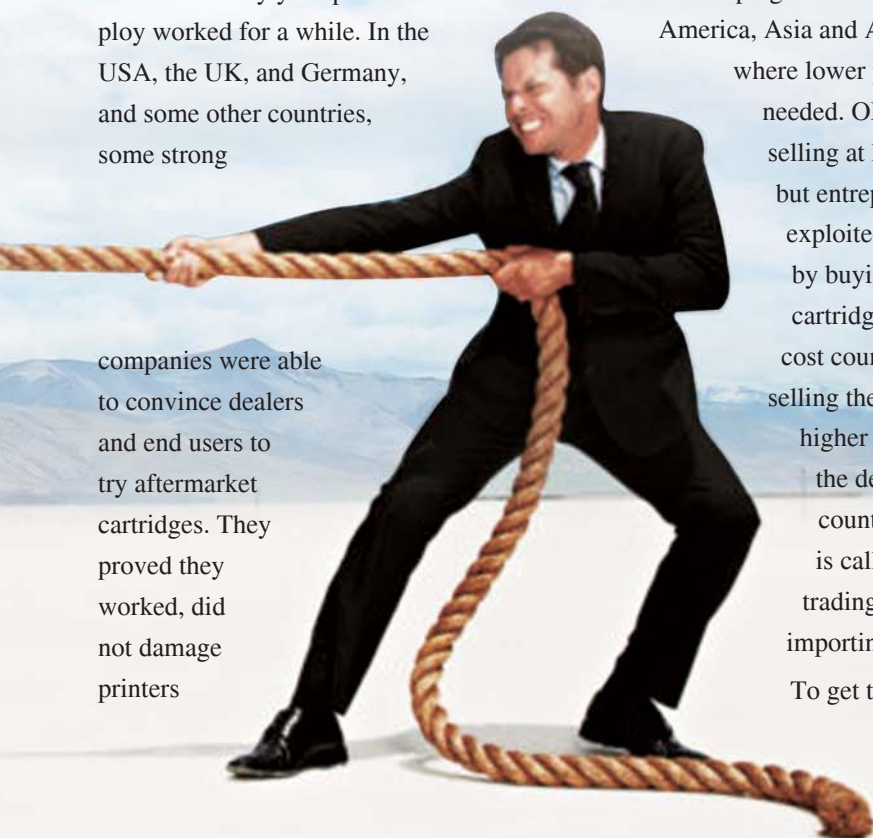
There were, however, big opportunities in developing markets like South America, Asia and Africa

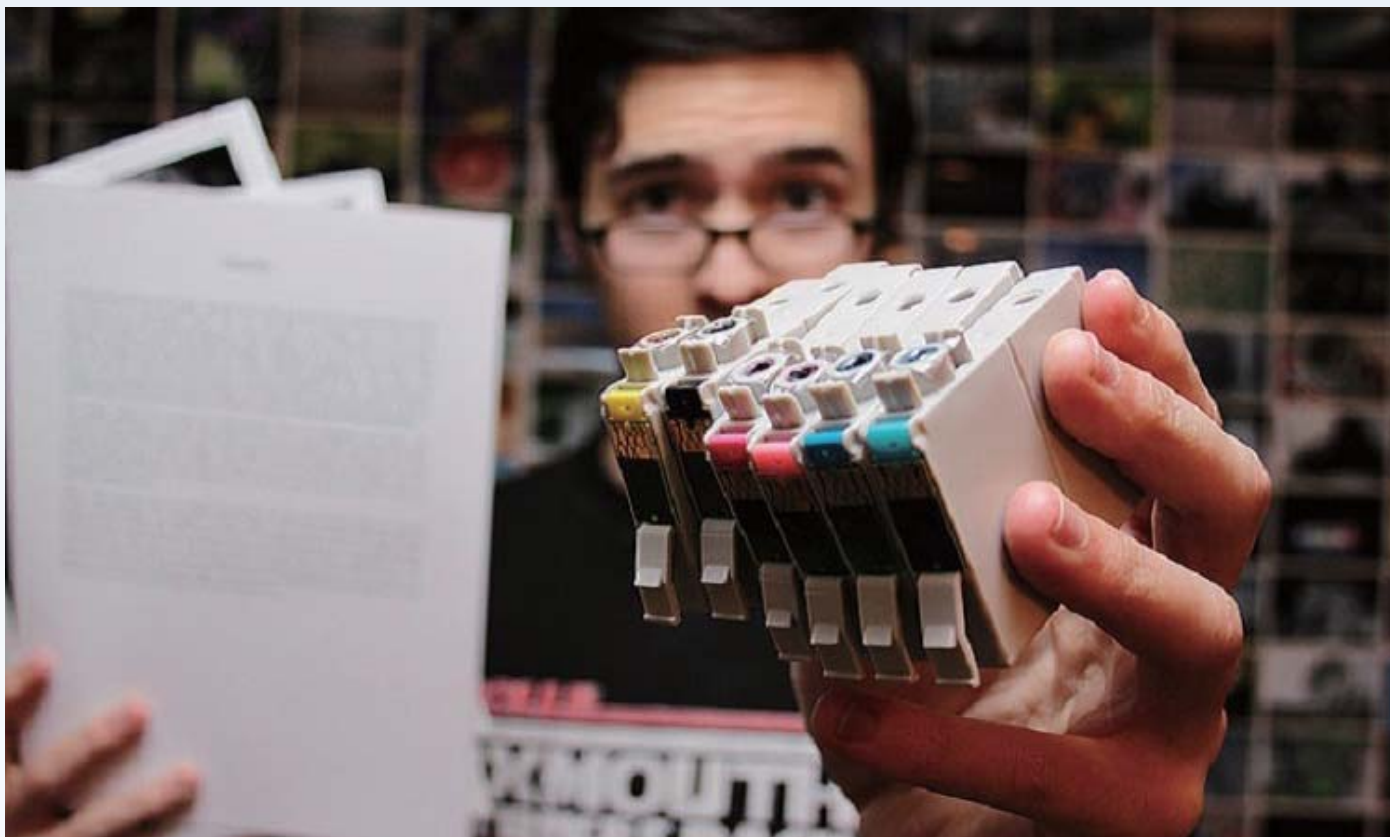
where lower prices were needed. OEMs started selling at lower prices, but entrepreneurs exploited that by buying OEM cartridges in low-cost countries and selling them for higher prices in the developed countries. This is called parallel trading or grey importing.

To get the best of

all worlds the OEMs developed four strategies:

1. Technical: where they introduced chips;
2. Product differentiation with different products for different regions;
3. Packaging with local languages, a trademark variant only to be sold in defined regions;
4. Patents and trademarks: OEMs started to employ many patent lawyers as engineers:
  - a. A patent (technical feature) gives the holder the sole right to exclude others from making, using, or selling an invention. Patents are registered geographically i.e. European patents are not valid in the USA and vice versa. OEMs tend not to register patents in small markets or where courts do not actively protect Intellectual Property (IP) rights;





b. A trademark (brand) is a symbol or words which have been legally registered or established by use as representing a company or product.

### The Battle

As the struggle for market share intensifies and becomes more difficult, aftermarket factories must focus. The segments include:

- Counterfeit: absolutely illegal as they use trademarks registered by the OEMs. Thankfully, this is a declining and difficult a market to grow;
- Clones: compatible carbon copies of OEM cartridges and are therefore blatantly infringing OEM patents. These are popular where IP protection is poor or non-existent;
- “Patent-Free”: factories invest significantly in designing compatible cartridges that do not infringe OEM patents. This is where most of the big Chinese-based factories focus their attention, but it is not easy to do it well. Many of these factories say:
  - ◇ “We have our own patents therefore you are safe”: Not necessarily true. Even if you have your own patented solution, the cartridge may still infringe another OEM patent;
  - ◇ “My cartridges are 100% safe”: OEMs are constantly introducing new patents even for old cartridges. What is “safe” today may not be “safe” tomorrow;
  - ◇ “No OEM has been granted a court decision against us, as they know our cartridges are ok.” Sounds good, but in my experience ...

In developed markets, it costs millions of dollars to reach a patent lawsuit court decision. Who is going to fund that? Fantastic news if you WIN in the court... but if the OEM appeals, you could find yourself two years later, after spending \$3 million in legal support, where the OEM withdraws its case and hits you with a new patent lawsuit. You cannot recover your legal costs and you must start again! This is a true story, often repeated.

Patents are complicated. Even the best legal minds in the best factories cannot give 100% assurance their products are ok. They can always be taken to court to be tested.

If you are a buyer of products from



China, you need factories who have:

- An expert patent team;
- Commitment to supporting you technically and financially;
- A willingness to take back problematic products at their cost;
- Meaningful indemnity contracts that genuinely protect you.

All this is very expensive for factories and only the biggest and most profitable can afford to do a good job.

How can a factory with low prices afford it? Caveat Emptor. When something goes wrong and you need your small supplier to support you, do you really know who you are dealing with? I have experienced Chinese citizens suddenly disappearing with their customers' money. I have met with Chinese police who ask for copies of

China ID cards of those people who have disappeared. Just saying it was "Mr Jim Wong" gets you nowhere. Obviously.

#### **Why the OEMs need to fight the Aftermarket and how do they do it?**

It's all about the money, OEMs are in business to look after their shareholders, staff, suppliers etc. and will fight to protect profit sources in any way they can. They also have much deeper pockets than aftermarket companies.

1. Chips: OEMs will continue to make chips more complex and difficult to reverse engineer.
2. Firmware updates: A worsening trend where suddenly, without users being aware, the firmware is updated on the printer and aftermarket cartridges stop working. Is it fair that these changes happen without consent from customers?

OEMs regard this as a legitimate tactic, causing chaos to end users, dealers and manufacturers alike. Aftermarket cartridge stocks need to be quarantined and later updated with the latest chips.

3. Marketplace platforms e.g. Amazon and eBay: It is fair for OEMs to request listings of clone products to be removed if they clearly infringe OEM patents. It is however a low threshold for OEMs to convince marketplaces to act. Are OEMs using their power to unfairly attack non-infringing products? It is very difficult for small manufacturers to argue with marketplaces and OEMs.
4. Patents: OEMs continue to target larger aftermarket companies, particularly successful/growing ones in the USA and Europe. Most

Need an alternative to OEM cartridges?

# STATIC CONTROL HAS THE SOLUTION!



**Static Control offers premium aftermarket toner and ink jet cartridges for all the major OEM brands, including solutions for the latest HP and Lexmark printers.**

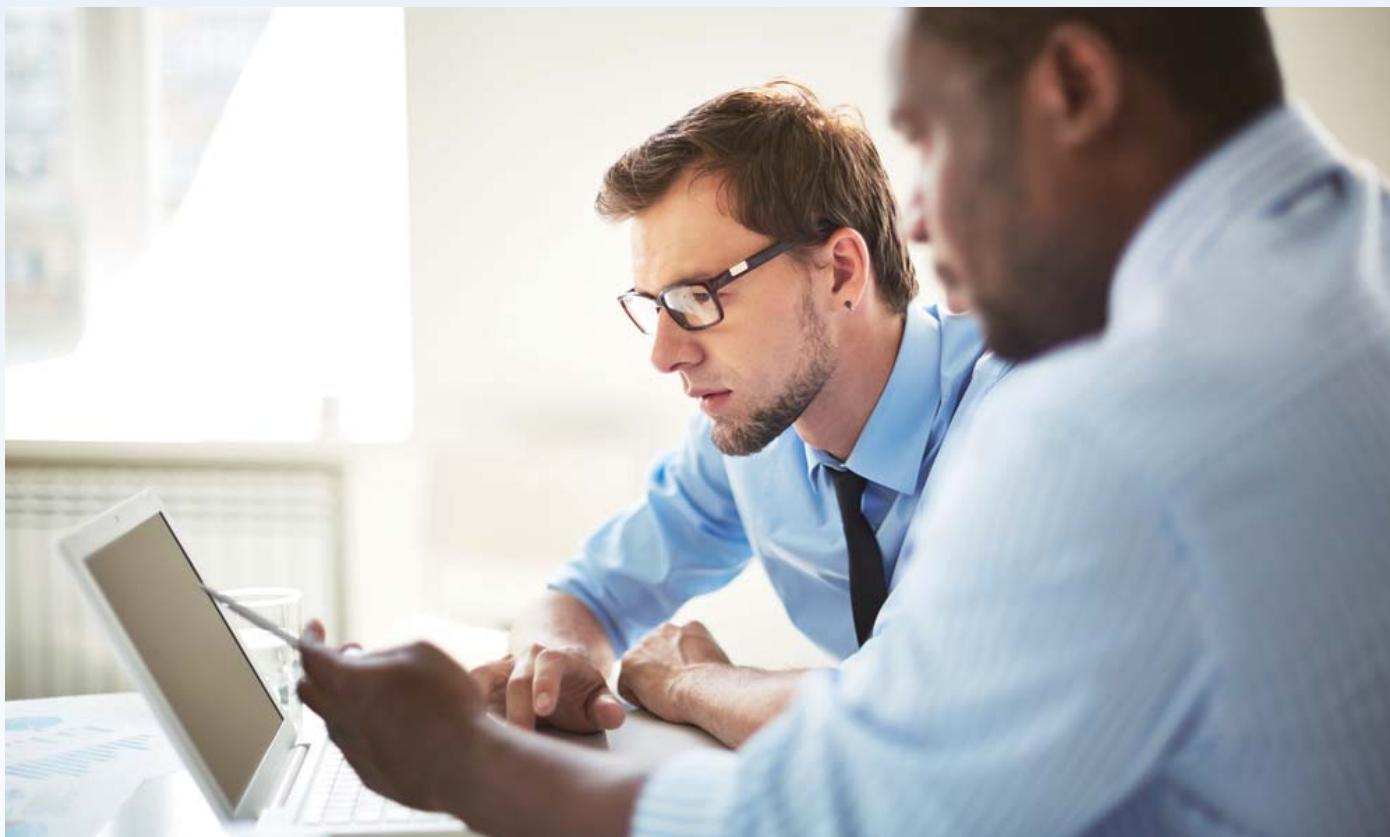
- Remanufactured and compatible cartridges available
- First-to-market solutions
- Dedicated customer service representatives
- Free technical support



**Static Control®**  
www.scc-inc.com



Learn more about  
Static Control



companies targeted by OEMs will give up and stop selling referenced products. Some OEMs send out thousands of letters to dealers without knowing if the referenced products are even being sold. Even if just 25% of recipients stop selling it is a low-cost win for the OEM. The devil is always in the detail.

5. Restrictive Practises: Many dealers sell both OEM and aftermarket products. It is now possible that they will be stripped of OEM discounts and product supply if they do not stop aftermarket sales.
6. Web Sites: OEMs want their products displayed first when an end user makes a “Google” search and may offer better OEM buy prices if the web site agrees.
7. “Cartridge Free Printers”: The

OEMs provide large ink tanks and when they become empty, the customer just buys OEM bottled ink, which may last for up to two years.

8. Pay per print such as HP’s instant ink program. Customers pay a fixed monthly fee, and the OEM sends “free” cartridges when needed. Print volumes are monitored over the internet.
9. Save the Planet: End users send empties for recycling believing the empties are reused to save on landfill, whereas the OEMs just crush them to keep empties away from remanufacturers.

### Summary

OEMs cannot beat the aftermarket by being nice guys. They win with a range of tactics I have mentioned above. It’s

exactly what you would do if you were in their shoes. OEM business models make it impossible to provide cartridges with similar prices to the aftermarket as OEMs have to fund:

- billions of dollars of losses from their printer sales;
- armies of patent lawyers and engineers;
- expensive, multi-layer sales channels, OEM country subsidiaries, and highly paid distributors and dealers.

The Aftermarket must focus on providing high quality products while respecting OEM IP (trademarks and patents) at fair prices so everyone can make money and properly fund investments. The race to the bottom helps no one. ■

# IN MY VIEW

As an aftermarket business, why aren't you concerned about OEM strategies to capture your business?



France

**Gerwald van der Gijp**  
ARMOR Print Solutions SAS

I'm not concerned as we produce products that are better than new. Yes, better than new!

Why? We re-use only OEM cartridges and reduce waste. We offer an extremely wide range of products for all OEM brands. Our remanufactured products print at well as the originals but print with 10% more pages. We provide a free collection service with ESR reporting combined. We have an open distribution policy. We design and produce our own inks. And all of this is for 40% less cost than the OEM. Of course I'm not concerned.



Romania

**Radu Matache**  
Marketing Manager, Toko

OEM strategies do not pose a danger to us. We continue to provide high-quality, reasonably priced products along with a first-rate customer service. Even with a technological and branding advantage, OEMs cannot match how we meet consumer demands. That's what sets us apart.

Put that together with the consumer demand for reasonably priced alternatives to OEM goods. We are confident in our ability to expand our business.

Our biggest threat, however, is when OEMs use technologies that block compatible or remanufactured consumables and remove choice for the consumer. This is a topic that deserves more discussion.



U.S.A.

**Jim Vitiello**  
CEO, Datasourceink

I am concerned about the OEM strategies to capture my business. I have to be. But I have a stronger belief in the aftermarket manufacturers and industry leaders. I have always trusted in their ability to hold the OEM actions in check with their own technologies. No matter what the OEMs do, we cannot let them strong-arm their way into pushing us or the consumers around. I predict in the next two years there will be a revolt against those companies that think they have a right to all the business. Everyone has a right to choose! It's the American way!



I want to share why I believe HP, the known king of print equipment and its supplies, is quickly becoming irrelevant and, I think, will follow the likes of Kodak, Sears, and Blockbuster into oblivion.

HP sells more print equipment and supplies online than all its competitors. But unfortunately, HP needs to be more accurate with market realities as they cannot get toner out of their minds and have a minimum track record of success in driving innovation. It has been a long time since inventions and great leaders emerged from William (Bill) Hewlett and David (Dave) Packard's old garage.

How much better would HP be today had their stubbornness not prevented Xerox from buying them? At that time, HP's newly appointed leaders seemed extremely insecure about their place in a future they had not imagined.

Together, Xerox/HP would have owned the world of both business and home consumer printing, not to mention how the Xerox distribution directly to business end-users would have opened doors to deliver all the HP computer products and broader services aiding businesses through digital transformations.

The business-to-business services model of Xerox would have been so incredibly powerful to a combined Xerox/HP.

Unfortunately, then and like today, HP and its complete lack of vision and with its

leadership too weak to challenge its status quo, is quickly resulting in it becoming recognized as a pure commodity player. Today does any business see HP as a value-added services entity? No!

In short, HP sells products, and its product portfolio is all supported by its printer supplies business. HP extracts nearly all of its profits from the quickly declining printer toner and ink marketplace.

There is no denying that HP is the dominant player in online and offline purchases of print equipment and its supplies. However, being the king of an eroding hill defines coming obsolescence. In short, HP is doomed without business printing, and no logical person believes businesses will continue printing at levels like in the past.

As businesses continue printing less, the shift to A4 will increase, and HP's aspirations to disrupt the A3 marketplace are quickly fading.

Since HP acquired Samsung in 2017, it has completely miscalculated many of its ambitions. Here's another example: HP discontinued their PageWide business A3 ink-based MFPs last year, and now we see the industry making significant movements towards ink replacing toner in business printing.

Epson, Brother, Ricoh, and Kyocera have great ink technologies. Their ink technologies are quickly approaching the

# HP - Selling online or Stock Buybacks Will Not Save Them

✍ Ray Stasieczko



future of all business printing. End-users and reseller service providers are realizing the benefits of ink technologies; zero heat and very few parts eliminate the service intensity which comes with laser-toner-based products.

A declining need matched with less service-intensive products completely disrupts the decades-old business model.

The current HP leadership needs to be more proficient at turning the ship to continuous relevance. Since 2019 under the leadership of Enrique Lores, HP has purchased over 14 billion dollars of its own stock. Enrique believes that HP stock is undervalued. This is another miscalculation among many others.

Now that you have read this far, can I suggest you visit the HP investor relations page and read their quarterly presentations. Over the last six straight quarters, supplies have been declining. So, I ask you, without supplies, what does HP have?

- Quarter 4 FY 2021 supplies down 2%
- Quarter 1 FY 2022 supplies down 2%
- Quarter 2 FY 2022 supplies down 6%
- Quarter 3 FY 2022 supplies down 9%
- Quarter 4 FY 2022 supplies down 10%
- Quarter 1 FY 2023 supplies down 7%

Today's HP seems to be more interested in eliminating jobs in favor of stock buybacks; HP seems more interested in what

I describe as milking the cow till there is no more milk. This strategy can be great for the old timers who have spent decades hiding behind toner printer cartridges living off the massive profits and hoping the past would continue forever.

Of course, most of these executives are at retiring age and seem disinterested that the milk is drying up and soon the milking barn will be an empty, deserted building.

Yes, HP and all printer OEMs will sell more and more equipment and supplies online. However, the real issue for the industry's OEMs is what else can they manufacture and what else can they distribute to all those businesses who once bought print equipment and its supplies?

HP must reinvent itself, or it will quickly fade into obsolescence.

As I say, "A company becomes obsolete when it focuses on delivering the past to the future instead of delivering the future to the present."

Status quo is the killer of all that will be invented. ■

*Over the last 25+ years, Ray Stasieczko has called the imaging industry (copy/print) home. He was COO/Vice President of ImageQuest over the past years. Ray has a deep understanding of the transformation happening in the industry, and his rich experiences allows opportunities for others to navigate through the transformation. <raystasieczko@gmail.com>*

## IN MY VIEW

As an aftermarket business, why aren't you concerned about OEM strategies to capture your business?



U.K.

**Dennis Haines**

Owner, Badger Office Supplies Ltd

The OEMs are increasingly becoming more aggressive in defending their cartridge profits. And it's going to get even worse for the Aftermarket. OEM actions include firmware updates, technically more difficult chips, patent actions, ink reservoirs instead of cartridges, and subscription services. The OEMs are ejecting suppliers from Amazon and eBay, giving dealers better OEM discounts to promote their products. Adapt or die!



South Africa

**Patrick Naude**

CEO, CMYK Industries

Gone are the days where we sit back and worry about how we will find a solution to the newest printer consumables. Over the years, the aftermarket industry has evolved and ploughed resources and commitment back into releasing new products sooner. Products now are more stable and mostly perform as well as the OEM. I now see Aftermarket products having a better warranty than the OEM. From my perspective, I feel the OEMs are having to work harder to block the aftermarket. And Aftermarket companies are a lot more confident about products than ten years ago. This is all thanks to our market working smarter and creating better products for the end users. As an Aftermarket reseller I'm less worried about the OEM claiming my market share, as we are on top of our game with good products and a fair warranty.



U.K.

**Jason Doran**

Head of European Business, Zhono

OEMs are just another competitor—albeit very big and dangerous! For 20 years, we have watched and learned the OEM strategies. They have used technology and patents to choke off the competition and it has largely worked. But that tells me the OEMs are very concerned about the aftermarket which has continued to take more of their market share. We have to monitor all competition strategies, but we have to focus and drive our own if we are to succeed in this market.

# Intellectual Property Patents, and Leg



Gary Hnath is a partner in the Washington D.C. office of Mayer Brown, LLP, a leading global law firm, and a senior member of the firm's intellectual property group. Gary has more than 25 years of experience litigating patent cases for clients around the world, including some of the most high profile cases in recent years involving toner and ink cartridge technologies. Gary can be reached at <[ghnath@mayerbrown.com](mailto:ghnath@mayerbrown.com)>.

INTELLECTUAL PROPERTY

COPYRIGHTS

TRADEMARKS

PATENTS

TRADE SECRETS

# Property Rights, Valid Legal Battles

 Gary Hnath

I've had the privilege of representing Ninestar and other companies in intellectual property litigation involving toner and inkjet cartridges for over 15 years, including some of the most high profile and contentious legal battles in this space, and have seen a tremendous evolution in the manner in which OEM and aftermarket companies compete in the area of intellectual property.

As discussed in this article, understanding some of the strategies and tactics employed by the players in the market is an essential part of success in today's environment.

## IP Rights

The patent system serves a vital role in protecting technology innovations, and it is important for all participants in the market to respect the patents and IP rights of others. This applies equally to both OEMs and aftermarket companies. Ninestar, for example, proactively studies the patents of its competitors in an attempt to avoid future infringement issues before launching a new product, and often obtains patents of its own on

its innovative design-around solutions.

Recently, a number of companies, in particular OEMs, have been increasingly aggressive in enforcing their IP rights, including patents, trademarks and copyrights in a variety of different ways. For example, a company can enforce its patents by bringing an infringement action in a US District Court seeking damages for past infringement and an injunction to prohibit future sales of infringing products.

Another strategy employed by many OEMs is to file a complaint with the US International Trade Commission under Section 337, seeking an exclusion order, enforced by US Customs & Border Protection, to prevent infringing products from being imported into the U.S. These proceedings move very quickly; a typical case goes to trial in 9-10 months and is completed within 16 months.

While enforcement of valid patent rights is perfectly legitimate, OEMs sometimes overreach, for example, by trying to "wind back the clock" and amending their patents in an attempt to

prevent others from using their valid workaround solutions.

A good example is a case which we defended for Ninestar. The patent owner in that case, Canon, had previously asserted certain patents claiming a "pivotable" coupling on laser toner cartridges in a previous ITC investigation, which ended when Ninestar successfully designed around the patents by using a non-pivotable coupling. Canon then filed another complaint with the ITC, seeking to capture Ninestar's redesigns with newly drafted patent claims based on the same lengthy patent specification.

We defended the case on behalf of Ninestar and obtained a ruling from the Administrative Law Judge that Canon had "implicitly" disavowed claim scope in its patent specification and limited its invention to coupling members that are pivotable.

Based on this finding, the ALJ ruled that Ninestar did not infringe the seven patents asserted by Canon when limited to their proper claim scope. Canon



appealed to the full Commission and then to the Federal Circuit Court of Appeals, both of which upheld the ALJ's ruling that Ninestar did not infringe the patents asserted by Canon.

This was a significant victory both for Ninestar and the secondary market for printer cartridges generally, and marked the latest chapter in what was a closely watched case with industry-wide significance.

The landmark decisions of the ALJ, Commission and Federal Circuit foreclosed Canon's strategy of improperly broadening its claims beyond its invention of a pivotable coupling member by holding its patent claims to their proper scope.

Sometimes, for economic reasons, an aftermarket company may choose not to participate in a district court case or

ITC investigation. In that event, all is not lost. For example, even if the ITC issues an exclusion order, there are opportunities for aftermarket companies to continue to sell their products in the U.S. market by filing what is known as a "Rule 177 Request" with Customs to clear a redesigned product.

A party begins the process by filing a request with Customs, explaining why the redesigned product does not infringe. The patent owner then decides whether or not to oppose the request. If they do, Customs will then adjudicate whether or not the redesigned products are within the scope of the exclusion order after providing opportunities for written submissions and oral argument to both sides.

The process is designed to be quick – a typical timeline would be approximately

3-4 months – and if successful, the aftermarket company can proceed to sell its product notwithstanding the exclusion order.

We have handled many of these proceedings successfully for Ninestar and other companies, and in some cases, the OEM chose not to fight; in others, we obtained a favorable ruling even after opposition by the OEM.

### **Removals of Online Products**

The newest battleground for IP enforcement is on Amazon. OEMs in particular, have become increasingly aggressive in enforcing their patents, trademarks and copyrights by filing complaints with Amazon, seeking to remove listings for infringing products. On the patent side, if a patent owner believes its patent is being infringed, and infringement has not previously



been adjudicated, it can send a notice to Amazon, which will then give the sellers the opportunity to participate in its relatively new “APEX” (Amazon Patent Evaluation Express) procedure, designed to be completed in less than two months.

By participating in this process and making a deposit, a seller can avoid having its listings immediately removed. A neutral evaluator is assigned to the matter, who considers written submissions from both sides and then makes a determination about whether or not the products infringe. If so, the listings are then removed, and if not, the listing remains intact. The losing party forfeits its deposit.

An IP rights owner can also enforce its copyrights and trademarks on Amazon. For example, if a company has a copyright on its product packaging, and

believes others are selling products that copy its design, it can file a complaint with Amazon to have the product listings removed.

The seller can try to persuade the copyright owner to withdraw its complaint or can file a counter-notice under the DMCA (Digital Millennium Copyright Act) explaining why the removal was in error. The copyright owner then must file a complaint in US District Court if it wishes to maintain its complaint.

While the concerns of IP rights holders are often legitimate, they sometimes overreach or make mistakes and sweep in listings that are not infringing when filing a complaint with Amazon.

We have found that often the best way to get quick results is to initiate a dialogue with the IP rights holder,

explain why an error has been made, and convince them to withdraw their complaint. As we have good relationships with many of the attorneys representing OEMs, we are often able to reach the real decisionmakers more quickly than going through the contact information provided by Amazon.

As this discussion illustrates, whether you’re an OEM or aftermarket company, these understanding the many different ways in which companies can enforce and defend against claims of IP infringement is critical to success in the U.S. market.

Companies that respect the IP rights of others and are careful to provide non-infringing products, while still willing to fight back against unfounded claims of infringement, have the best chances of success in this highly competitive environment. ■

# Trends in Market and Third-Party



Kris Alvarez is a Senior Analyst at Keypoint Intelligence, working directly with clients to produce custom testing and consulting reports on the office hardware side of the business. Kris also writes pieces for the Keypoint Blog and has a hand in the analysis/research behind our coverage of sustainability in the industry.



# Most Shares for OEM Supplies

✍ Kris Alvarez

Depending on who you speak to, there are differing views on the size of the imaging supplies aftermarket.

Manufacturing stakeholders generally do not share information about the number of cartridges they produce which makes tracking the supplies market challenging. There are ways to estimate market size, though. *Keypoint Intelligence* has developed a proprietary methodology to accurately understand not just the size of the whole imaging supplies market but also, the dynamics and trends which affect both supply and demand.

The impact of waste on the environment creates a strong argument for the reuse of products before they are ultimately recycled. In the imaging supplies industry, some cartridges may be repaired, refurbished or remanufactured complete with fresh ink or toner and reused multiple times before wear and tear mean they are finally only suitable for the recycling of their primary materials.

The marketing and sale of remanufactured and compatible products

(aftermarket) is changing. In many industries it's no longer considered negatively as the world understands that reuse before recycling is a positive activity. At *Keypoint Intelligence*, we are seeing the first signs of this changing attitude reflecting in the ratios of market share between OEM and aftermarket, as our industry starts to embrace sustainability.

## Technology Matters

Readers of *RT Imaging World* magazine understand there are differences between ink and toner cartridges which affect their ability to be remanufactured. To reuse an original inkjet cartridge and achieve optimal performance requires delicate cleaning and refilling with a quality ink. To remanufacture a toner cartridge also requires an original empty, skilled dismantling, quality testing procedures for components, and precise reassembly once refilled with the correct toner. Print testing to ISO quality standards ensures high levels of customer satisfaction.

All this work comes with a cost and the Aftermarket product price needs to

justify the refilling or remanufacturing activity. With ink cartridges generally commanding lower price points and the market moving towards tank-based systems and subscription services, remanufacturing and refilling inkjet cartridges is becoming less popular.

For toner cartridges the story is different. Their higher price points make the business proposition more attractive. The reverse supply chain from printer or copier for empties is well established. It channels reusable cartridges to an often industrialised process for remanufacturing.

## Home vs Office

It's no secret that printing at home is the domain of the inkjet printer which enjoys shares of the home market in excess of 90%. The low acquisition price for inkjet printers and supplies, exceptional print quality with images, acceptable document quality and fast printing speeds make for a compelling value proposition.

The inkjet aftermarket may only have a handful of remanufacturers, refillers or compatible manufacturers, but there



are numerous private label products in the market to the point where it is almost impossible to identify the source of an individual cartridge.

In the office, toner rules. Whether it's the single function printer producing thousands of pages each day, an MFP printing everything from confidential reports to marketing materials or, the copier servicing the needs of 10's or 100's of users, inkjet technology has only made modest inroads into offices, measured in the teens' of market share.

Genuine original toner supplies command a premium price. They are in demand for use in new devices leased to businesses under managed print service contracts in order to prevent warranty invalidation. However, when the printer, MFP or copier enters its second or third life, support responsibility changes and channel partners are often attracted to the profitable opportunities presented by

aftermarket supplies. Hence, the share ratios between OEM and aftermarket in the office can be much closer to 65/35 in favour of the original manufacturer.

But there is opportunity for inkjet in the office. Some argue that Business Inkjet devices will finally displace laser because they consume far less power than their energy-hungry laser competitors, which is an environmental positive. Further, many users of the page from a printer, MFP or copier, struggle to tell the difference between an inkjet or laser printed page. And if they could see a difference, chances are they would not know why or, be able to name the technology used.

### Developed vs Developing Markets

Planet Earth is a complex place when it comes to imaging supplies. Let's try to understand what is going on around the world between the OEM and the aftermarket.

Starting in Europe, there are clear differences between Western and Eastern European markets. The developed economies of the West follow the pattern of market shares described earlier in this article. High shares of inkjet in the home, laser dominating the workplace, MPS contracts locking out aftermarket supplies. As you move East, the office landscape changes. Devices stay longer in the workplace and as they age, aftermarket consumables become the supply of choice. In some Eastern bloc countries, aftermarket toner supplies usage has high double-digit market share.

North America has differences, although they are not so far away from Western Europe. For example, in home offices it's not unusual to find a laser-based MFP or printer. It may be under the ownership of an employer but supplies replenishment choices can be



rather discretionary and brand loyalty is strong.

Ink cartridge refilling is happening in the US, but this is not a growing market; its stagnant at best but remains very profitable for those involved.

There is an aftermarket for laser supplies and demand for remanufactured is increasing in the US, another environmental positive. However, you cannot ignore that for remanufacturing to be truly “green” it needs to be somewhat localized. Given the size of the US, that causes problems for the economic return supply of empties and the business case for remanufacturing. These factors along with tight controls on compatibles entering the US holds aftermarket shares down to the mid 30’s percent.

Across the border into Latin America, the imaging supplies landscape changes. Refilling of both inkjet and laser cartridges remains a popular activity in several less developed geographies.

It is not an especially sophisticated activity either. Gone are the cleansing centrifuges used by the inkjet cartridge refilling factories, as are the air filtration and vacuum extraction systems of toner remanufacturing plants of the western world. Sophistication here is an electric drill and a syringe or funnel through which to add the ink or toner.

There are parts of the Asia Pacific market with characteristics like those of Latin America, but to generalize at this level would be unfair. There is another aspect to the compatible aftermarket which has taken market share in Asia and Latin America: the clone (illegal new build compatible) market and its associate, the counterfeit market. Understandably, gaining insight into these markets is not easy. The Asian countries can be considered a home for manufacturers of compatibles which may not align with Western values and standards. In these geographies,

the compatible clone, and counterfeit products for both inkjet and toner markets have taken around half of the market where devices do not generally prevent their use.

This is not the whole Asian story. New build compatible toner cartridges, whether in the Chinese market or rest of Asia, have been slowly losing share to the OEMs over the last few years. The market is rejecting high failure rates to the point where their market share now is in the low 20th percentile. It’s a similar story for inkjet cartridges, too, which have slipped into the mid to high teens in the region.

Sustainability is changing the way the world views aftermarket products that encourage reuse, and our industry is full of opportunities to build better products which can maximize that positive message. At *Keypoint Intelligence*, we are watching those trends in this complex market very carefully. ■

# And Now They Get



Steve Weedon is an award winning CEO who has held senior management positions at various OEMs as well as Katun Corp, Static Control Components and Cartridge World. He was the original founder of *The Recycler* Magazine and of trade shows in Europe. He is currently CEO at Print Rite Europe Ltd, Print Rite Pelikan Germany. Contact Weedon at <steve@prinrite-eu.com>

It was Isaac Newton who said, “and to every action there is always an equal and opposite or contrary, reaction”. That certainly seems the case with the OEM’s reaction to the ingenuity and innovations from

the alternative aftermarket since 1990.

You may have thought that the OEM’s reaction to thousands of remanufacturing companies that sprung up across the globe

reuse, might have been welcomed as good news and a solution to the single use and discard design they themselves created.

Back in those days no one was talking much about the “green issues.” Corporate conscience about such matters was clean and

to recycle their exhausted ink and toner cartridges for

focused to generate profits and worry little about the eco-problem caused by millions of toner cartridges dumped in landfill sites.

The reaction was opposite and contrary as Newton said it would be. Collections of used cartridges by the OEMs began to deny the remanufacturer of the prime source material the aftermarket needed. Boat loads of containers filled to the brim with empty useable cartridges were shipped off to places like Dalian in China for processing. Of course, the motive was to remove the used cartridge source from the remanufacturing industry under the guise of reclaiming



# It ... or do they?

 Steve Weedon

metal parts for reuse. The plastics were burned to heat the building and the metals reclaimed. I visited and saw the families eking out a living trying to reclaim the gold from the printed circuit boards and chips, with acid burn splat marks covering their legs and naked feet.

HP has on at least one occasion tried to remanufacture cartridges themselves clearly understanding the benefit of recycling for reuse and the eco-friendly persona it

generates for the brand. It did not last long and was a big disaster all round.

In 2000, chips started to appear on cartridges so that the cartridge could “talk” to the printer mother board and decide if it wanted to print or not. Another contrary reaction to slow down or stop the remanufacturer from recycling for reuse.

There was no need for a chip, but OEMs created the need to shut down the aftermarket. I recall Lexmark stating at one of its distributor conferences, that they had finally cracked it and the aftermarket would not be able to develop a replacement chip for its T650 printer series. I could see them rubbing their hands together. They were very nearly right, it took three years of investment and the best talent to finally bring a chip to market so remanufacturers could recycle the Lexmark cartridge, even with the chip costing \$45 each, it could be done.

The OEMs have always misjudged the ingenuity and investment dollars available to the aftermarket. Whilst chips have become ever more complex since then, the aftermarket continues to keep one pace behind the OEM and meets the challenge.

OEMs collectively have responded to the aftermarket by trying to slow down or entirely stop it altogether. They, themselves, continue to focus on the single use and discard model that so badly impacts our environment.

So, after 30 years or more, to a drum roll and a flat cymbal, HP announced on March 29, 2023 its new HP colour LaserJet Series with Terra jet, promising to deliver energy efficient, high performance scalable printing for hybrid workstyles.

And now they get it, or do they? HP claims:

- Up to 27% reduced energy use
- Up to 71% less plastic in packaging LaserJet Pro 4200/4300 series with 78% less in the 5700 and MFP 5800 models
- 28% less new plastic in the cartridge
- True-to-life colors for small businesses
- 35% recycled plastic content (LaserJet Enterprise 5700 Series and MFP 5800)
- “Color LaserJet Enterprise Series has all the performance of a full-size copier in a compact footprint.”

HP Terra jet cartridges can have a lower carbon footprint than their predecessor products and is included in new printing solutions from small business to large enterprise, according to HP press release.

It's interesting that HP now focuses on the eco-friendly message of their new toner

cartridges. Carefully worded not to ever say that their other cartridge product designs ever had an eco-friendly problem.

The truth is HP and other OEMs will always try and stop the aftermarket with litigation, cartridge return programs, encrypted chip designs, and firmware changes. They will do whatever it takes to hold on to as much market-share as possible while attempting to reduce the product CO2 footprint, to be seen to be greener, if they can. They talk out of both sides of their mouth.

The OEMs have never been pushed into changing their product designs to move away from the single use concept that creates the environmental problem. But then again, the authorities in control have never jumped on board the aftermarket alternative and environmentally better remanufactured products either. And probably never will.

OEMs have reacted to the aftermarket for more than 30 years. That is why they started collecting empty cartridges. That is why they started placing chips on cartridges. That is why they change firmware. And so on.

But it has all been an equal, opposite, and contrary reaction. Now, maybe, they, or at least HP, see the need for better environmental products. Maybe our aftermarket collective message has gotten through.

Quite frankly, I cannot help but think it's just a new product rollout and not any major paradigm shift. So, the future is predictable. We will continue to innovate, reduce CO2 footprints, increase yields, recycle for re-use and be one pace behind OEMs. And they will continue to try and use every weapon in their power to stop us. ■



# Stuart Lacey

## Why Remanufacturing Should, Can and Is the Better Aftermarket Solution

**The fundamentals of a successful business opportunity were undeniable and simply based on common sense.**

In the mid 1980s a handful of pioneers discovered they could take a used laser printer cartridge and, using various aftermarket copier toners, refilled the plastic 'core' to get some semblance of a decent copy.

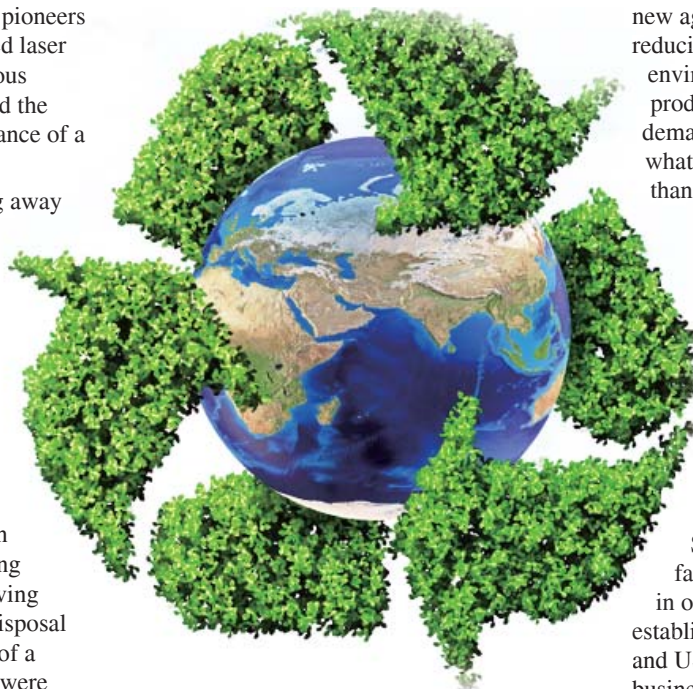
For obvious reasons, throwing away a perfectly functional, highly engineered, and technically complex printer cartridge went against human nature and, since it had simply run out of toner, the early pioneers wanted to resuscitate a perfectly functional piece of equipment.

With limited success initially, the opportunity grew exponentially into a multi-billion USD industry worldwide, creating tens of thousands of jobs and saving millions of tons of waste from disposal in to landfill. The fundamentals of a successful business opportunity were undeniable and simply based on common sense.

Today there are many 'trendy' phrases used to describe the benefits of remanufacturing, such as 'circular-economies', 'single-use plastic', 'reduced carbon-footprint', etc., etc., but in the early days it was simply about not throwing away a perfectly functional, reusable product.

Then, along came the hugely successful compatible manufacturers. This led to the demise of thousands of remanufacturers around the world with the loss of tens of thousands of local jobs and subsequent loss to domestic economies. China was in the envious position to manufacture a 'new' cartridge for less than the remanufacturers could re-build them and, in most cases, impossible to compete on price.

However, driven by public sentiment and the obvious efforts of Europe and US to introduce new legislation to reduce single-use plastics and promote the right to reuse,



the tide is now turning with a definite upswell of positive opinion and market demand toward domestically remanufactured products.

### The ultimate form of recycling

Remanufacturing has been described as the ultimate form of recycling since it reuses the initial, durable 'core.' It not only conserves much of the initial raw material content but also ensures the finished product is the same, if not better, than the original.

As such, the end-user keeps most of the added value created by the OEM, but with additional economic and environmental savings along with the opportunity to support local enterprise.

Many of the added value reasons that led to the historical success of remanufacturing before its demise, ring very loud and clear again today. It is undeniable that everybody is concerned about the planet's untenable position of consumerism. Everywhere you look the

new agenda revolves around being 'green', reducing your carbon footprint, promoting environmentally friendly, domestically produced remanufactured products. The demand for remanufactured product, whatever it may be, is considerably more than it was thirty years ago.

It is obvious today that the large factories producing compatible and new build products are very conscious of both the legislative changes coming, but also the general sentiment of the markets and customer base. Every factory in China must be concerned about the future of their new-builds and most have started offering a 'remanufactured' range of products. Some are even considering opening factories to remanufacture cartridges in other countries. No wonder the long-established remanufacturers in Europe and US are feeling more upbeat about the business outlook than they had for quite some time as it will give the longstanding brands the added advantage.

The fact remains, remanufacturing a printer or copier cartridge considerably reduces waste to landfill by repurposing the original, durable core and is beneficial both to the environment and the end-user's pocket.

At the end of the day, it is simply common sense to support any product that is remanufactured, especially when it promotes local businesses, local economies, and the planet we all share. ■

### Stuart Lacey

*South Africa-based Lacey is a 30-year pioneer of the office equipment and supplies industry and is keen to introduce key global suppliers to the big buyers across the African continent with RT VIP Expo one day intensive events in Nigeria, Tunisia and Ethiopia. Please contact <stuart@delace.co.za>*

**RT Global  
Partner  
For Africa**



# Dhruv Mahajan

## Concerns Over OEM Strategies

**All the OEMs are trying various strategies to milk the lucrative consumables business in India.**

I am certainly concerned about OEM activities. India is a big market for printer consumables. It is currently valued at US\$456 million and if it continues to grow as it is, it will be worth US\$ 1055 million in 2027.

There are at least 300 major importers of printer consumables from over 700 exporters or manufacturers including all the OEMs.

All the OEMs are trying various strategies to milk the lucrative consumables business in India. Currently, the OEMs only have about 15% market share. The reason for this is that the price of compatible toner cartridges to consumers is 90% lower than the OEM prices for entry level cartridges. These accounts for over two thirds of the Indian market.

The OEMs are fighting back. I find it particularly galling that HP INDIA is promoting EASY INKS (also applicable to toner cartridges) to lock small and home users into buying exorbitantly priced OEM cartridges. They offer misleading presumed benefits and baits such as free paper. They sign up printer monitoring by the OEM to ensure NO compatible cartridges can be used by them. So sad and unfair.

Another concern of mine is that OEMs can get exemption from the government's GeM marketplace for government and public-funded buyers.

Everyone else must comply by the "Make in India" laws when it comes to importing products.



Those who sell aftermarket printer consumables need to set up a factory in India to sell their equally good toner cartridges and inks which are always at least 50% to 80% lower priced than the OEM.

The authorities need to be lobbied and requested to make it mandatory for OEMs also to Make in India and sell their OEM brands to government buyers.

Alternatively, I am saying the government needs to remove this mandatory requirement to have a factory for Make in India for sellers of compatible toner cartridges because all the parts required to build or rebuild a cartridge must be imported, mainly from China. There is no local essential component production taking place in India to manufacture a toner cartridge.

Local production for sales to government buyers only will have to

be at much higher cost unless the Make in India policy is made mandatory for all toner cartridges sold in India. In that way, Indian companies can begin local production of all components and toner cartridges at scales to get

costs comparable to Chinese exporters prices.

Policy changes are needed so that the importing of all toner cartridges into India is out of OGL rules that allows for free imports. This also means removing toner cartridges imports from eligibility for zero percent customs duty.

All this looks too difficult to implement so it becomes necessary to remove the "Make in India" requirements for all players. In that way, both imported compatible and OEM toner cartridges can be sold to GeM buyers on a level playing field. ■

### Dhruv Mahajan

**RTGlobal  
Partner  
for India**

*Dhruv Mahajan is RT Imaging World's Regional Partner for India. Based in New Delhi, he has been an international business development manager for 11 years responsible for developing the aftermarket imaging supplies business throughout the Gulf and Southeast Asia regions. Mahajan is the International Business Development Manager at Ninestar Image Tech Limited—responsible for developing business in the GCC (Gulf Cooperation Council) and SAARC (South Asian Association for Regional Cooperation). <dhruvm@ggimage.com>*

## The Smart Sustainable Choice



### Nashua Green Range Premium Remanufactured Toner Cartridges



#### IMMEDIATE COST SAVINGS

Nashua offers cartridges at significant savings.



#### STRICT QUALITY CONTROL

All Nashua's cartridges pass stringent quality & reliability tests before release to the market.



#### REMANUFACTURED IN THE EU

Nashua Green Range Cartridges are made in the EU. This strengthens compliance and reduces carbon emissions caused by intercontinental transportation.



#### LIFETIME GUARANTEE

We offer a lifetime cartridge guarantee so you have peace of mind!

### Nashua embraces the circular economy

- ✓ Compliant with EU Green Deal
- ✓ Compliant with EU Circular Economy Action Plan
- ✓ Ready for new EU Regulations on "Imaging Equipment Consumables"



### Green Certifications



✓ ISO 14001: "Certified".



✓ Nordic Swan: "Certified"



✓ WEEE: "Compliant".



✓ REACH: "Compliant".



✓ RoHS: "Compliant".

### Social Responsibility Audit



✓ Certified for Labour, Health & Safety. Environment and Business Ethics

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Lorentzstraat 11 - 1 | 3846 AV HARDERWIJK | The Netherlands

Mobile: +31 6 53 45 04 95 | [www.iopbv.com](http://www.iopbv.com) | [mark@iopbv.com](mailto:mark@iopbv.com)

[www.nashua.com](http://www.nashua.com)

Exclusive EMEA Partner

# Mark Dawson



## Strategies for Survival in a Declining Hard Copy Supplies Market

**Aftermarket players that understand what is happening have a better chance of adapting their own strategies to optimise business performance.**

The end game is in full swing, people. If you don't believe it, give your head a wobble, get out and talk to the channel!

The rules of the game are different now. OEMs can't grow with the market. There isn't any growth. Instead, they fight with each other to keep their respective slices of a shrinking pie. It is brutal. There will be more casualties. Expect carnage.

Aftermarket players that understand what is happening have a better chance of adapting their own strategies to optimise business performance.

Since they're still the market leader, let's analyse what HP has been doing. We know that supplies have always driven financial performance there. How does HP sell more supplies? There were always 3 levers to pull:

1. Increase the installed base of devices.
2. Increase the print volume per device.
3. Increase the penetration of HP supplies.

In this end game, #1 is nearly impossible (without further M&A activity which is inevitable). #2 has no chance in our new digital world. No surprise then, that HP is very busy with #3. This is the "lowest hanging fruit" available to them. Pulling this lever has the biggest impact on us.

Contractual business models are a great way to lock in OEM supplies. HP has been moderately successful with MPS activities in the corporate segment, without really making A3 gains from Ricoh, Konica Minolta, Xerox among others. The Samsung acquisition was supposed to drive faster, deeper penetration. It didn't.

In the top end of the SME segment, HP has been more successful. MPS has locked



out remanufactured and compatible options at many big organisations. As a result, aftermarket cartridge volumes on SKU families such as W9030MC, W9040MC, W9050MC, and W9190MC are negligible.

In the consumer segment, subscription models have a similar impact. Instant Ink has successfully locked out alternative cartridges for a sizeable percentage of the installed base. Many HP devices in our homes and small offices are no longer accessible to remanufactured/compatible solutions.

The challenge (and opportunity) for HP is the segment in between. Here HP is an undisputed leader with the biggest installed base. However, the transactional business model has allowed our industry to carve out a sizeable share. When executed properly, our industry's value proposition has been compelling: lower carbon footprints from remanufacturing, comparable OEM quality, end-user price advantage and healthier channel margins, have all driven aftermarket success.

HP's best chance to increase supplies revenues is stickier cartridges in this segment. Tactics being deployed include (but are not limited to): Frequent use of

firmware updates to block non-HP cartridges; built-in loss of functionality when re-using HP cartridge chips; introduction of killer chips that can't be reused at all; development of secondary printer lines (at lower RRP's) which only accept HP cartridges; and new channel distribution models to drive "loyalty" from resellers.

The EU Commission finally rejected repeated attempts by OEMs to dilute the Voluntary

Agreement, and instead will implement regulation. Since that announcement, HP has become very aggressive. This restricts consumer choice significantly, has serious consequences for sustainability and threatens the future of channel resellers. From May 2023, wholesalers in the EU and EEA are ordered to stop supplying resellers that have not been authorised by HP. You can imagine how much more control and additional data this could give HP in the coming period.

If you need more intel about what the OEMs are doing here in EMEA, and more importantly, if you need help to develop counter strategies feel free to reach out. Your business needs new tools to succeed in this end game. ■

### Mark Dawson

RTGlobal  
Partner  
for EMEA

*Dawson joined the imaging supplies industry in 1987. He has held senior commercial positions with both American and European Corporations and has an MBA from the International Business School in The Netherlands. His expertise includes brand strategies and differentiation, sales training, blue ocean strategy, and more. Recently, he has been helping businesses adapt to changing market conditions and find innovative ways to stay ahead of the game. He is a frequent speaker at Industry Events and a regular contributor to this publication. He can be reached at <mdawson@zeelandnet.nl>*



# Harvey Levenson

## Abusing Patents to Troll the Printing and Imaging Industry

**Patent trolls are the epitome of greed, thoughtlessness, and unethical behavior, and are impacting the survival, growth, and development of printing and related companies.**

I wrote a White Paper entitled, “A Case Study of Patent Abuse: Printing Industry Faces New Nemesis Impacting Growth and Employment—Patent Trolls.”

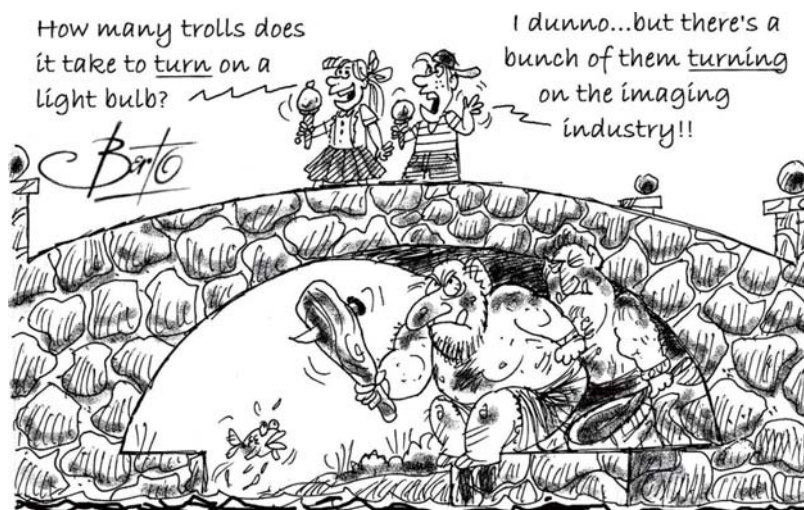
That White Paper received enormous industry press coverage, and to my understanding it was used as part of Court proceedings resulting in the dismissal of two long and visible printing industry cases brought on by patent trolls.

However, since then, at least two new cases emerged by patent trolls attempting to threaten and extort funds from printing industry companies and Original Equipment Manufacturers (OEMs) using standard technology common for doing day-to-day business in the printing and related industries.

### What is a Patent Troll?

A patent troll is a company or person that purchases a patent and then sues another company claiming that the use of one of its products infringes on the purchased patent.

Trolls attempt to enforce patent rights against alleged infringers far beyond the patent's actual value or contribution to the technology or the industry that the patent represents. Patent trolls typically do not manufacture products or provide services based upon the patents in question. They use patents as “legal weapons,” instead of actually creating any new products or



coming up with new ideas to improve business, commerce, or society. Trolls are in the business of threatening and creating litigation.

Further, trolls often buy-up patents cheaply from companies that are looking to monetize patents that have little or no value, or should have not been granted to begin with, because of Prior Art demonstrating that what the patents teach was obvious prior to the time of application for the patent. These patents are subject to an invalidity contention and termination by the United States Patent & Trademark Office (USPTO) when alleged infringers contest the trolls. They are typically very broad, covering generic or well-known types of applications that should never have been patented to begin with.

In possession of these broad and vague patents, the troll then sends out intimidating letters to those they argue infringe on their patents. It is a scare tactic that preys on innocent companies that are merely providing a service needed by society.

These letters threaten legal action unless the alleged infringer agrees to pay a licensing fee, which can often range to the tens of thousands or even hundreds of thousands of dollars. Many who receive infringement letters will choose to pay the licensing fee out of fear, and because patent litigation is extremely expensive and can involve lengthy and time-consuming court deliberations.

Patent trolls are the epitome of greed, thoughtlessness, and unethical behavior, and are impacting the survival, growth, and development of printing and related companies. Even those users of our industry's OEM technology that may not even be part of our industry are being affected.

My advice to the industry is clear: Do not respond to demands or threats from patent trolls. Do not make any payments. Continue doing “business as usual.” Band together as a team to pursue dismissal by the Courts. ■

### Harvey Levenson

*Dr. Harvey R. Levenson recently retired from his role as Professor Emeritus and former Department Head of Graphic Communication at Cal Poly State University in San Luis Obispo, California. His research and teaching specialties continue to be communication, intellectual property, media, printing, and technology. He continues to be actively involved and is often called upon as an Expert Witness in these areas. <hrlevenson@thegrid.net>*



# Volker Kappius

## Why Remanufacturing is the Better Aftermarket Solution

**A wrongdoing remains a wrongdoing even if others are doing it as well.**

Our world is divided in many ways. Actually, far too many as to even be able to list them.

One of these many divisions is unfortunately the division of the world in countries who can afford to reduce the environmental impact of human societies and those countries who cannot afford to reduce said impact. This is a true dilemma, because it is a generally accepted truth that unchecked raw material extraction damages the environment and any adverse consequences that come out of it affect all life on our planet. Consequently, climate change has become one of the most important and influential topics in national and international agendas.

Cartridges from the genuine remanufacturing industry are the clear OEM alternative of choice for customers who can afford and who are willing to reduce their environmental footprint. Typically, between 45% and 80% weight percentage (without the ink or toner because it is a consumable) can be re-used in modern cartridges (see table 1). This can save scarce resources and when remanufactured near to their potential customers, it can reduce the carbon footprint considerably.

In contrast, Newly Built Compatible cartridges (NBCs) are an OEM alternative of choice for customers who cannot afford to reduce their environmental impact and/or who do not care about the environment. They have adopted an '*après moi, le déluge*' attitude.

As a consequence, NBCs are actively contributing to, and increasing the negative environmental impact of office imaging equipment cartridges. Why? Because they use 100% newly produced components. Even if some of the plastic used in the NBCs has been derived from recycled plastics, the source of the recyclate can be questionable as the DecaBDE scandal five years ago revealed.

To argue that most OEMs also use recycled plastics (but without the DecaBDE contaminated recyclate), is not an excuse. A wrongdoing remains a wrongdoing even if others are doing it as well. The NBCs manufacturer are merely mirroring the '*après moi, le déluge*' attitude of their customer base. It is a business and companies are in it to make money.

However, things have been made worse for both our industry and the environment.

The presence, price policy and in some cases the illegal actions by NBC manufacturers have triggered actions by the OEMs. Firmware updates that block the use of third-party supplies is having an immense impact on the office imaging equipment aftermarket cartridge industry. OEMs refer to the newly built aftermarket chips as clone-chips. They argue that these clone-chips pose a risk to the printer, the computer and the entire network on which the printer runs. The OEMs argue the cartridge using a clone-chip could allow malware to be installed.

But it is not only the end-user's computers or network that is at risk. The OEMs are collecting a lot of information through their printer base and most of their printers when connected to the internet are sending this information to servers of the OEMs.

The world of the OEMs is divided as well. Lexmark, which is now Chinese owned, has become the third-party supplies blocking master as they only function when a cartridge from their company group is installed. HP is at least leaving a small door open for genuine remanufactures because HP printers allow remanufactured cartridges to print if they re-use the HP OEM chip – unfortunately, without any meter readings. Yet other OEMs allow the use of aftermarket chips or do not require a chip on the cartridge at all.

I can only conclude that remanufacturing is the better aftermarket solution as it adheres to the waste pyramid and helps to lower the environmental impact of office imaging output. Not to mention the superiority of remanufactured cartridges when it comes to compliance with IP and local regulations and waste laws. ■

### Volker Kappius

Volker is CEO of Germany-based Delacamp and has over 17 years of corporate management experience, business development and marketing in the B2B sector. He cooperates with both customers and suppliers across Europe as well as in the USA, Russia, China, Japan and South Korea. He is a board member of the European Toner and Inkjet Remanufacturers Association and actively lobbies at the European Commission promoting re-use and the circular economy. <vkappius@delacamp.com>

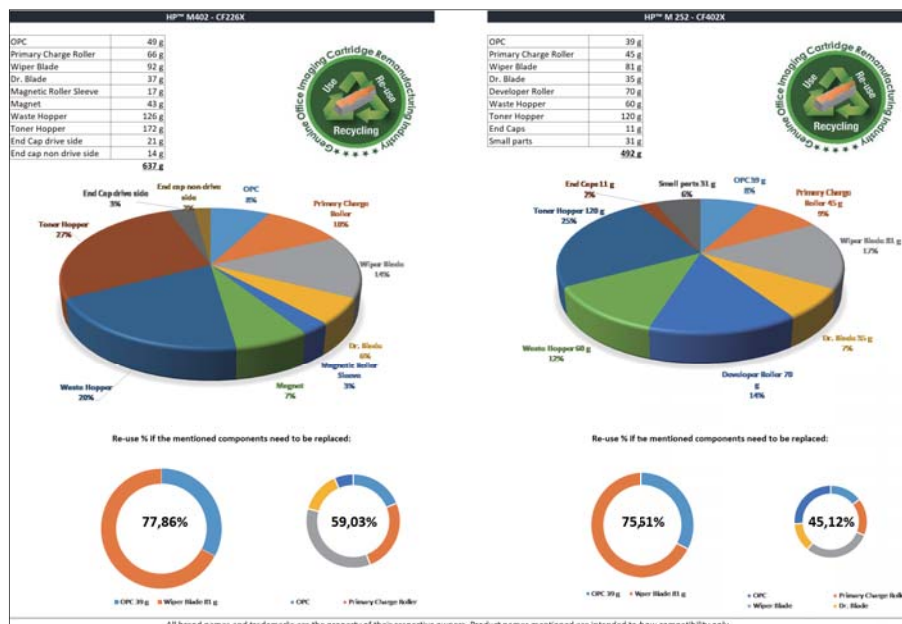


Table 1: Typical weight percentages of remanufactured cartridges

# OEMs Making You Crazy? We Have Been Fighting Back for 25 Years.

International Imaging Technology Council represents the interests of the North American imaging supplies industry, especially those who remanufacture – or sell remanufactured—imaging supplies. We also represent all related industry suppliers, as well as printer and cartridge service providers. An estimated 1,000 domestic businesses and some 30,000 employees are involved in this exciting industry in North America.



## So what do we do?

- Defend the industry through lobbying efforts and other industry-government programs that assist in fighting unfair competitive practices.
- Present the position of the industry to the International Trade Commission, the Federal Trade Commission and in several federal court proceedings. Int'l ITC has presented the industry's position to the U.S. Supreme Court in three pivotal lawsuits, all of which were decided favorably for the aftermarket.
- Promote cartridge remanufacturing at industry meetings around the world.
- Confront OEMs on unfair competitive practices such as chip-killing firmware updates, which led the Int'l ITC to attack HP's environmental status with the Global Electronics Council.
- The defensive activities are not always against the OEMs either. Many of the Int'l ITC's recent activity has been against counterfeiters and manufacturers of patent-infringing cartridges. Or cartridges that are improperly marked as "remanufactured."
- Promote the industry and its products through education of institutional buyers, government purchasers and, ultimately, consumers. Working with state and federal buyers, the Int'l ITC has brought millions of dollars in business to aftermarket dealers.
- Enhance the business of imaging supplies dealers by promoting standardized test methods and other performance-proving programs. And through the promotion of best practices, the Int'l ITC helps dealers sell more and better quality cartridges.



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# Tricia Judge



## The OEMs and Greenwashing

**The Int'l ITC will continue to call out the hypocrisy of HP's greenwashing practices.**

Greenwashing is a deceptive marketing technique used by companies to make you believe that their products are doing more to protect the environment than they actually are.

HP, in particular, excels at greenwashing. It touts its efforts to recover and recycle its customers' expended cartridges. Take, for example, its Amplify program, which is designed to force dealers to buy and resell more new cartridges, under the guise of caring for the environment. Or the new Terrajet technology, which is better for the environment because of the toner's lower melting point, which provides minor incremental environmental benefits compared to the reuse of the 375 million cartridges that are thrown away every year.

However, instead of making its cartridges available for remanufacturing and reuse (the highest form of recycling), it shreds or melts down these valuable cores. Its primary goal is not to divert these cartridges from landfills, but to divert them from the remanufacturers who could give them one or more additional lifecycles.

Another big lie is HP's desire to significantly improve its environmental impact. They release all sorts of greenwashing propaganda that their products and programs are superior for the environment. Yet it is forcing its customers to throw away perfectly good cartridges and drive to the store to purchase new ones after it releases another round of anti-competitive firmware updates.

Common sense dictates that a reused cartridge is better for the environment than a new one. Three quarts of oil are used to manufacture the average new toner cartridge. And to use it once and toss it only fills up landfills with industrial-grade plastic that won't degrade for a thousand years. The Int'l ITC will continue to call out the



hypocrisy of HP's greenwashing practices.

### What Better Time to Do That Than Reman Day?

Reman Day is an annual event that celebrates all the remanufacturing industries, including those in the healthcare, automotive, heavy equipment, and imaging supplies sectors. Remanufacturers host events and plant tours designed to showcase the economic and environmental benefits of remanufacturing. Reman Day is sponsored by the Remanufacturing Industries Council (RIC), of which Int'l ITC is a member.

This year, an imaging supplies remanufacturer hosted the head of the Automotive Parts Remanufacturing Association (APRA), President Joe Kripli.

Planet Green's owner, Sean Levi, opened his facility and provided an in-depth look at his state-of-the-art ink remanufacturing operation. To the delight of all involved, Levi introduced his extensive line of innovative disassembly, cleaning and filling equipment that he has designed. Some of these machines are repurposed household tools and appliances, making Levi a true remanufacturer on several levels.

Established in 2000, Planet Green, located in Chatsworth California, is one of the largest remaining printer cartridge remanufacturers in the U.S. The business is based on diverting used printer

cartridges from landfills and remanufacturing them for resale as an environmentally friendly and economical alternative. Consumers can recycle and buy high-quality U.S. remanufactured ink and toner from Planet Green's DoorStepInk brand at [www.doorstepink.com](http://www.doorstepink.com).

### After the Tour: Back to RemanDay in Vegas

After sharing a great morning in Chatsworth, California, the former world headquarters for cartridge remanufacturing, I headed back to Las Vegas. The flight was empty, leading me to wonder whether everyone was celebrating Reman Day.

Upon my return, I met up with Bill Henry, owner of American Laser Products of Middleton, Wisconsin. Henry, a long-time member of the Int'l ITC and I gathered up the proclamations declaring April 13 Reman Day in both Las Vegas and North Las Vegas.

As attested to by the increase in participation at the World Remanufacturing Conference in September of last year, it is clear that the push for a circular economy and sustainability is allowing for a growth in remanufacturing industries. I'm looking forward to celebrating Reman Day for years to come. ■

### Tricia Judge

*Tricia 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 20 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, 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 U.S. International Trade Commission. She can be contacted by email at <[tricia@i-itc.org](mailto:tricia@i-itc.org)>*

# The 3 Biggest Challenges in the Aftermarket

 James Douglas

The three greatest challenges for the aftermarket have changed in the last five years. And in the last two years the order of the top three has been shuffled. I deal with retailers and I see the challenges every day.

## Firmware Updates

In the past 12 months the biggest challenge has been keeping both our warehouse and customers stock up to date with current chips. The frequency and type of firmware updates by Brother, Epson and

HP has raised an interesting challenge for factories, distributors and retailers to keep up to date so that rejection rates are kept low.

No matter how much training and support material we give to educating end users to turn off auto firmware updates, they still front up with open cartridges in hand for return saying they have been rejected by the printer.

We have supplied instruction fliers, signs, posters and done videos to show how to avoid future issues on updates. They work for the stores that use them; however some store owners do not always inform their customers who fail to act on the information.

We spend a lot of time and money ordering in chips,

rechipping stock, reprogramming chips, and swapping out stock for retailers so that they can limit the impact of the OEM firmware update tactic.

However, some retailers:

1. fail to rotate their stock properly and so very old cartridge stocks are failing;
2. do not keep up with the current information and chip versions even when hand fed all the data;
3. have given up selling later model HP compatible inkjets despite the keeping up with upgrades is irritating, costly and time consuming but mainly for the distributor. The retailer is not covering the risk and all they need to do is follow the guides and service the customer. When a new firmware upgrade is released, it is a perfect excuse for the retailer to contact their customers and inform them of the update, make



# Challenges

# Challenges for the

James Douglas is an award-winning entrepreneur based in Sydney and has become a trusted supplier of imaging components and products and advisor for retail businesses across Australia. He is a recipient of the Excellent Service Award for his tireless efforts in personally driving to visit, train and mentor each and every one of his customers, providing them with dedicated support to remanufacture and sell high quality, non-infringing aftermarket supplies to their customers. He can be contacted at <james@adcon.net.au>.



sure the upgrades are turned off, check if they need more cartridges and swap out any cartridges if the customer has not turned off the updates.

We have been first to market with new chips and updated stock in Australia for many years. Our ECO and Cartridge Universe brand customers make and retain more sales on the firmware upgrade models than their competitors because others can't keep up with the rapid changes. Retailers should use this to their advantage and gain customers and not lose margin by selling OEM.

## Quality vs Price

Years ago, products did not match the original brand on quality due to technical hurdles. However, quality improved so rapidly that in some cases cartridges exceeded the original brand in quality, archive-ability, and yield.

Sadly, new aftermarket entrants used price to break into the market. As prices have continued to decrease, so have quality and service. This has driven many customers, especially the higher volume business customers back to the OEM. Quality alternatives are available but are not being offered.

It's called "The race to the bottom" and the downward slope only helps the OEM. The loss of many cartridge specialist stores has led to a "dumbing down" of the channel. Most new entrants are price box movers with very little product knowledge compared to earlier operators. Selling on price alone while claiming

"best quality" is a fallacy. Unfortunately, many customers go back to OEM and are permanently lost to the aftermarket.

The manufacturers who supply the cartridges are both victims and co-conspirators in this decline in service and quality. They compete to supply a range of cartridges to the market but when asked for better prices they cut the quality on one or more components to meet the price request. If the customers don't complain they keep cutting something else until it becomes a problem. Instead of aiming to make the best possible product, they spend their time seeing how they can cut costs with inferior components.

This cycle is very difficult to stop.

The OEMs hold the greatest market share and should be the main target however the aftermarket continues to cannibalise itself and fight for the scraps the OEMs leave behind.

No customer buys an OEM cartridge because of price. They pay more for quality and a trouble-free printing experience.

I have visited many manufacturers. I have visited nearly all the cartridge retailers in Australia. So, I understand the state of play very well. I am left second guessing when I am standing in a store and the owner tells me they only want to sell the best quality however their shelving is covered with budget brand cartridges. What option does the consumer have other than to go back to OEM if the retailer tells them they are selling the best aftermarket available but was in fact sold a budget cartridge that fails?

Covid has accelerated the sales of cheap

online cartridges. Cartridge specialist stores need to find a point of difference quickly or they will go out of business. Price is not the answer.

## High Cost of New Products


Another key challenge relates to the high cost of newly launched aftermarket products. This is mainly due to the high cost of developing and supplying highly encrypted chips. This means the price differential between aftermarket and OEM is not large enough to entice consumers away from buying the original brand.

To make things worse, the retailer cannot make high enough margins. In some cases, they make more profit from selling the OEM. As a result, some retailers don't bother stocking the new aftermarket products until the margin a year or so later. This means volumes are lower for everyone from the manufacturer, to the distributor to the retailer.

There are other challenges too. Many consumers, for example, still don't try aftermarket cartridges until their printer warranty expires. This means the aftermarket misses out on the highest page usage of a machine in the first year. The answer is to sell the printers and bundle aftermarket cartridges as part of the sale.

Newer issues include the rise of ECO tanks where the OEM supplies all the ink a customer might need up front and use of lock out tactics where the OEM sells direct or locks the printer up on future consumables. There are always plenty of hurdles, but fantastic opportunities for those retailers who are diligent. ■

# Challenges I S Facing

 Laura Heywood

With 40 years' experience working in the printer cartridge industry, it is safe to say Kleen Strike (UK) Ltd. has witnessed many different changes and challenges—from its new compatible and reloaded ribbon and film cassettes to refilled ink and remanufactured laser toner cartridges.

Established in 1983, it was still the decade of printing with ribbons, hence the name 'Kleen Strike' referring to impact thought up by Heywood's father who began Kleen-Strike Inc. in the mid 1960's in Baltimore, Maryland producing inked typewriter ribbon spools as well as compatible ribbon and film cartridges when they were introduced onto the market.

## The Early Days

With the help and advice of Kleen Strike Inc., Kleen Strike (UK) Ltd began trading in Rochdale near Manchester in the UK producing compatible and film ribbon cassettes for the UK consumer as well as offering a ribbon cartridge 'reloading' service replacing worn ribbon with freshly inked nylon and this continued well into the 90's.

One serious challenge Kleen Strike personally faced in the 80's and 90's were disingenuous comments and

intimidation that came from two OEMs.

One printer OEM realised a very large UK store chain they supplied had not been purchasing their ribbons. Their legal department sent a package to Kleen Strike, followed up with a threatening phone call stating categorically that Kleen Strike must cease the ribbon refilling service of the OEM's cartridges or "it would lead to very unpleasant results for Kleen Strike." They also threatened to tie Kleen Strike up in a lengthy legal court battle "until it became a serious financial burden for them."

Knowing the seriousness of the situation and 'just in time' the compatible new build cartridge was released and Kleen Strike just



Laura Heywood (right) joins fellow industry advocates and global association associates (from left) Vincent van Dijk (The Netherlands), Tricia Judge (USA) and Masato Emori (Japan).

# ee the Industry

Laura Heywood is a successful businesswoman and entrepreneur from the United Kingdom. She has been Managing Director of Kleen Strike for the past 40 years. As the Secretary of UK Remanufacturing Association for over two decades, she has been influential in encouraging lawmakers make policy changes at EU level to reduce CO2 with the use of remanufactured toner cartridges. In 2014 Heywood was invited to the UK Parliament for the launch of the cross party 'Triple Win' Report on Remanufacturing. She can be contacted at <laura@kleenstrike.co.uk>



replaced the OEM and continued the service reloading the compatible instead.

Another challenge was the rise of New Build Compatible (NBC) toner and inkjet cartridges because of one important issue: they threatened both the OEM and the remanufacturing industry. Even if they were non-patent infringing, these NBCs were mainly a one-time cycle. There was no environmental advantage using an NBC because it could not be remanufactured.

## The Modern Era

At the turn of the millennium and still today the one rise in technology that has been of serious concern to the remanufacturer has been the introduction of the 'smart chip'. The smart chip continues to impact the remanufacturing industry as it has done for the last 20 years.

The OEMs have also made it more difficult by moulding cartridge sides together instead of using screws, as in the past.

Today, Kleen Strike offers, in their opinion, three major rising issues that are impacting the printer cartridge industry today.

1. Supply of re-usable empties and price: or most OEMs, the concept of being 'Environmentally pro-active' is simply about recycling materials. The shortage of empties because of the activity of collecting their used cartridges and having them mainly recycled (crushing or incineration) chokes the re-use channel to the remanufacturer. And the cost of certain popular empties that are able to make it into the re-use stream has increased dramatically because of this. We have always believed government must offer incentives to companies where value-add is built into and maintained within environmentally preferable products such as remanufactured toners. This should include a stipulation within any printer contracts or agreements that

only remanufactured toners must be supplied even when they are not charged. This will open a partnership between the OEM and the remanufacturer. Kleen Strike was actually approached by an OEM about this very thing. An OEM customer in Australia demanded that as part of agreeing to their contract only remanufactured toners were to be used in their laser printers. To be prepared should this occur in the UK would we agree to their strict conditions where they would supply the used cartridges the OEM collected, their specific toner and smart chip and with total accountability. Only the process and labour would be supplied by Kleen Strike.

Since 1983, Kleen Strike has saved tonnes of plastic from becoming waste from nylon and film ribbon cartridges to inkjets and toner cartridges. With no encouragement from government to lead by example or to offer tax breaks, Kleen Strike lost a government contract to a compatible supplier because the formula was 70% price and 30% for the ISO Standards 9002 and 14001.

2. Digital transformation – taking the printed pages away: Invoices are being sent electronically, the posting of letters, greeting cards and bills, have reduced considerably. Reports are being saved in computer files. We have moved into the digital decade. The telex, the fax, the photocopier are like the typewriter hardly used or discarded. Our Branson ultra-sonic welder was last used 18 months ago when a major customer finally replaced their matrix printers. Our ink was sold for scrap 10 years ago when it was more economical to purchase minimum amounts of inked ribbon reels than to ink them.
3. Lack of skills: A better skilled industry than what exists



right now, would be needed to support:

- a. new forms of service to maintain the higher levels of reuse, remanufacturing and refurbishing in a circular economy placing higher demands on reuse industries. The WEEE Directive—established over 20 years ago—was a most forward-thinking piece of legislation. Many believed that Article 4—where a Product that relies on an electrical current in some form or another must be designed to be reused—did not belong there. Especially the OEMs who believed material recycling was preferable.
- b. more stringent legislation, such as the 'Right to Repair' where OEMs currently limit key components and spare parts to not only repair printers but also inhibiting the disassembly of printer cartridges.

As the supply for cheaper rather than environmentally preferable products become more difficult to support, the remanufacturer must find other avenues and replace their remanufacturing business model to the collecting and brokering of empties, or becoming a printer repairer. Those companies still remanufacturing and finding it difficult to compete will need to offer both a remanufactured product and a non-patent infringing NBC in order to satisfy what the consumer wants in order to survive. ■



# Ivan Rosales

## The 3 Biggest Challenges for the Aftermarket

**As with Sisyphus, those of us who are part of it can choose to find the bright side and prevail.**

There is a myth from ancient Greece that speaks of endurance, patience, perseverance and realist mindset. It's the Myth of Sisyphus.

Sisyphus was a Grecian King who cheated death and the God Hades and for this, he was commanded by Zeus to eternally push a big, rounded rock all the way to the top of a mountain, just to find that when he arrives to the peak, the rock will roll back to the base of the mountain. So he would have to start again... over and over again.

Zeus wanted Sisyphus to experience an eternal despair of a job well done, that requires an outstanding effort, but with unexpected results.

Sometimes, I see the print consumables Aftermarket is doomed—just as Sisyphus—to deliver great effort in finding new solutions to the challenges posed by the OEMs, just to find that when a task is completed, a new—and always harder—challenge, appears.

### No 1

The first big challenge for today's aftermarket is software upgrades from the OEMs. These upgrades disable the aftermarket chips—who simulate OEM chips functions—inhibiting the printer's capability of reading them. This normally cause the display showing a "no cartridge installed" message.

Aftermarket chips manufacturers countless hours and invest spend millions on every model update. In many cases, when the new chips arrive to the end user, a new firmware upgrade has been released. This creates a number of issues among the entire supply chain, and the economic impact for the aftermarket is huge. When customers are dissatisfied with a supplier's service—in not



being able to replace failures due to chips in a timely manner—they just find another supplier, and in more cases than we would like, they go back to the OEM.

### No 2

The second big challenge is the lack of new OEM printers and MFPs. Many end users have signed up to MPS programs and are used to having their installed base of printers renewed regularly. These customers rely on their aftermarket suppliers and expect to receive the latest version of printer devices.

After the COVID-19 pandemic, the printer supply chain was broken—probably due to the global chips crisis—forcing many companies to buy huge quantities of refurbished or used printer devices. We all know, there are various levels of refurbishing, from the ones that only clean the machines and sell them as reman, to those who change all wasted components and broken plastic pieces. If an aftermarket business is unable to supply good quality printer devices to its customers, that business is in great danger of disappearing.

### No 3

In my opinion, the third big challenge is unbranded supplies. As the markets

consolidate, the number of vendors are shrinking, with those remaining getting more market share. These few vendors, are not promoting their own brand. They supply their unbranded cartridges to hundreds of small businesses, who sell directly to end users. This causes a price sensitive market where buyers don't see any important differentiation among the potential suppliers. The regular customer question will be: why should I buy from you, if there are 10 other companies offering the same cartridge, 30% cheaper?

In a price focused market, there will always be someone willing to lower the price, and because of that, profits decrease dramatically. Business with low profits can never survive unless their sales volume is huge. But we all know, in the red ocean, the possibility of increasing your sales volume is very limited.

The story of Sisyphus ends with him realizing he can only enjoy the eternal task, in order to maintain his mental and spiritual health. He beat Zeus by embracing his challenge, no matter how abysmal it appeared to be.

The print consumables aftermarket faces challenges that seem impossible to overcome. However, that's how it always has been since it was born back in the 1980s. As with Sisyphus, those of us who are part of it can choose to find the bright side and prevail. We must keep seeing each other as a united industry, no matter our origin, position, or strength. That's the only way we can survive! ■

### Ivan Rosales

*Rosales is an entrepreneur and international business consultant with more than 20 years of experience in administration management, project management, marketing and sales management, finance and continuous improvement for the imaging supplies industry. <ivanrili@gmail.com>*

## DID YOU KNOW?



Most printer firmware cannot be reverted once updated. Once downloaded, you will be locked into that firmware update forever (or until you upgrade to a later version). Some printer models may give you the option to decline the update. Most modern printers have a default setting to automatically update the printer online.

(Source: <https://bit.ly/firmwareupdatesecret> )

## QUICK FACTS



In September 2016, HP released its first firmware update that effectively blocked non-HP ink cartridges from working in its printers.



As of 31 December 2021, Ninestar owns 4,885 self-developed patents.



Intellectual Property infringement might fall into numerous categories, including copyright infringement, trademark infringement, counterfeiting, and patent infringement.



As of 8 December 2020, Print-Rite has registered 3002 patents globally, including invention patents, utility model patents and design patents.

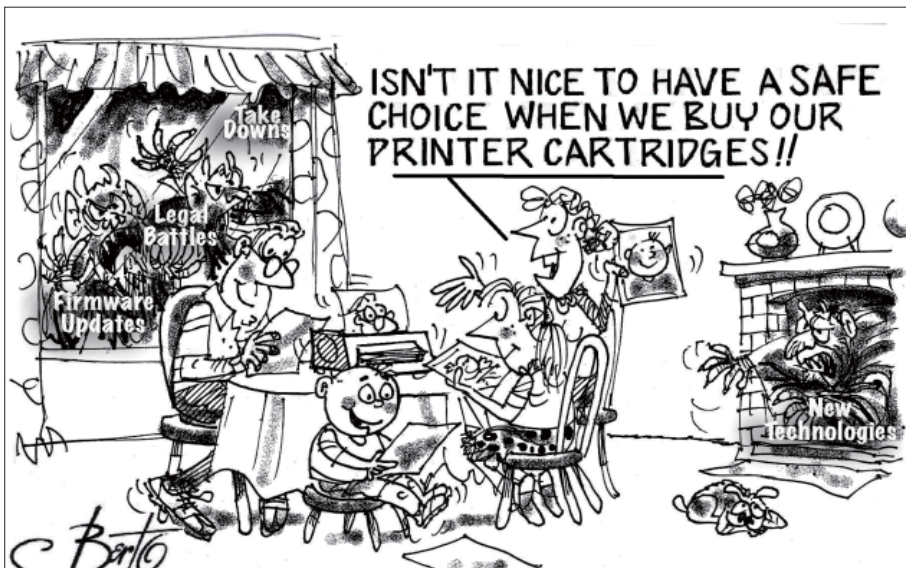


Canon Inc. is ranked fifth for the number of U.S. patents it held in 2022, and is the only company in the world to have been ranked in the top five for 37 years running, according to IFI CLAIMS Patent Services.



Since June 2018, Canon has successfully removed more than 30,263 listings from Amazon in defense of its laser toner cartridge patents in Europe and removed a further 3508 listings in Canada, Mexico, and the US.

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# **Still in Zhuhai**

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