

## Buyers Lab Performance Evaluation:

FEBRUARY 2018

## COMPARISON OF INKJET STARTER CARTRIDGES USING THE CANON PIXMA TS8150, DEVICE A AND DEVICE B PRINTERS

### Test Objective

Keypoint Intelligence - Buyers Lab was commissioned by Canon Europe Ltd to conduct comparative starter cartridge yield testing using the Canon PIXMA TS8150, Device A, and Device B. Each printer was subjected to two tests that simulated business workflows, with one test printing in a stop-start fashion and the other printing semi-continuously. Note that yields for the photo black cartridges is not included in yield calculations, as their use was negligible and they were not exhausted during testing. The Canon PIXMA TS8150's Photo Blue cartridge yields are not included for the same reason. All testing was conducted at Buyers Lab's European test facility in Wokingham, UK.

### Executive Summary

The Canon PIXMA TS8150's starter cartridges performed well against those of Device A and Device B. All but one of the TS8150's individual cartridge yields were higher than those of its rivals, and its average CMY and CMYK yields were all higher, too.

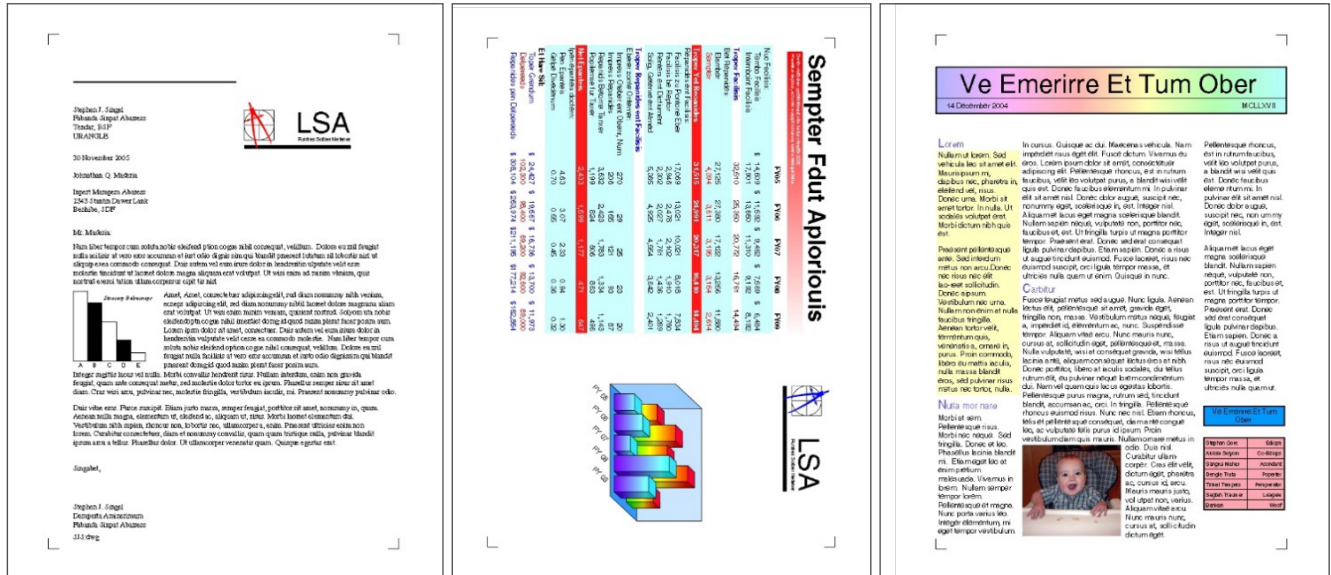
When printing a business document in a semi-continuous test, the PIXMA TS8150's average CMY and CMYK yields were 60% and 52% higher than those of Device B, respectively, and 19% and 16% higher than Device A's, respectively. That's a difference of 198 and 170 pages between Device B's and TS8150's average CMY and CMYK yields, respectively, and a difference of 85 and 70 pages between Device A's and the TS8150's CMY and CMYK average yields.

The PIXMA TS8150's yields would have been highest for every cartridge, but Device A's cyan cartridge produced 13 impressions more than the PIXMA TS8150 in the stop-start test.

Based on Buyers Lab's test results, it's clear that the starter cartridge set bundled with the Canon PIXMA TS8150 provides higher overall page yields than those included with Device A and Device B printers.

## Test Files

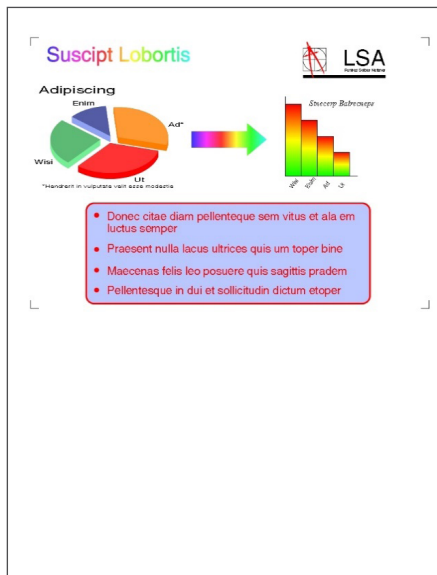
Buyers Lab used the ISO 24712 test documents to test page yield in the business semi-continuous and stop-start tests. The individual test targets are shown below.



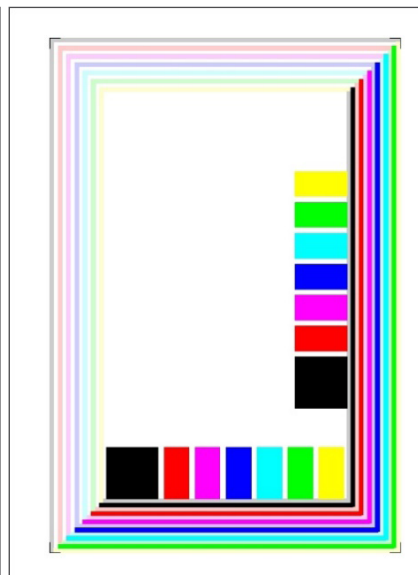
Page One

Page Two

Page Three



Page Four



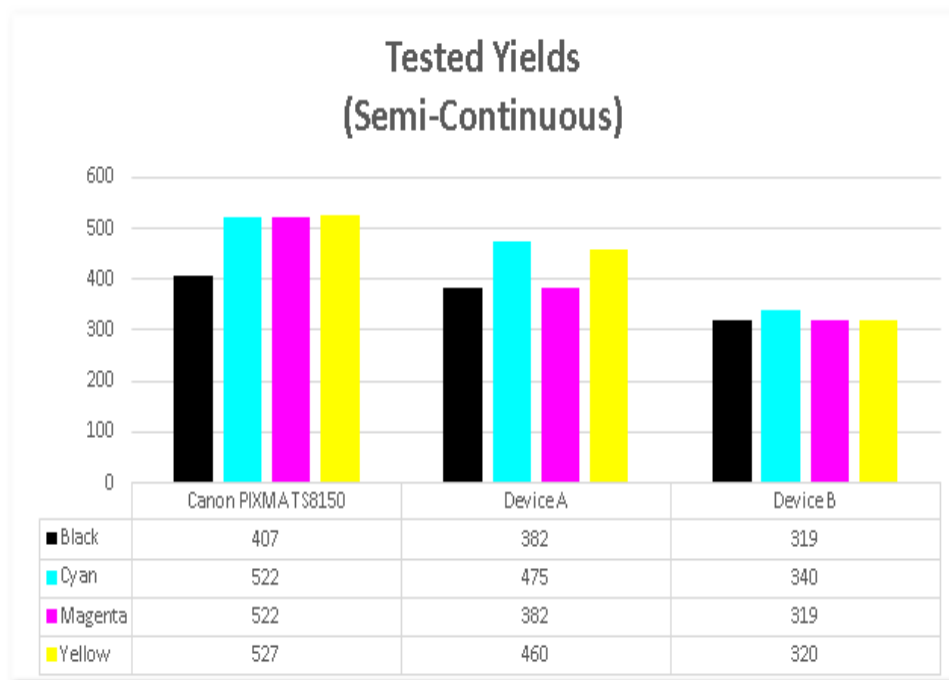
Page Five

## Page Yields

### Semi-Continuous Test

The Canon PIXMA TS8150's page yields were higher than those of its rivals, with its 524-page average CMY yield being 19% higher than that of Device A and 60% higher than that of Device B. Meanwhile, the PIXMA TS8150's average CMYK yield was 16% higher than Device A's and 52% higher than Device B's.

Note that yields for the photo black cartridges are not included in these yield calculations, as their use was negligible. The Canon PIXMA TS8150's Photo Blue cartridge yields are not included for the same reason.

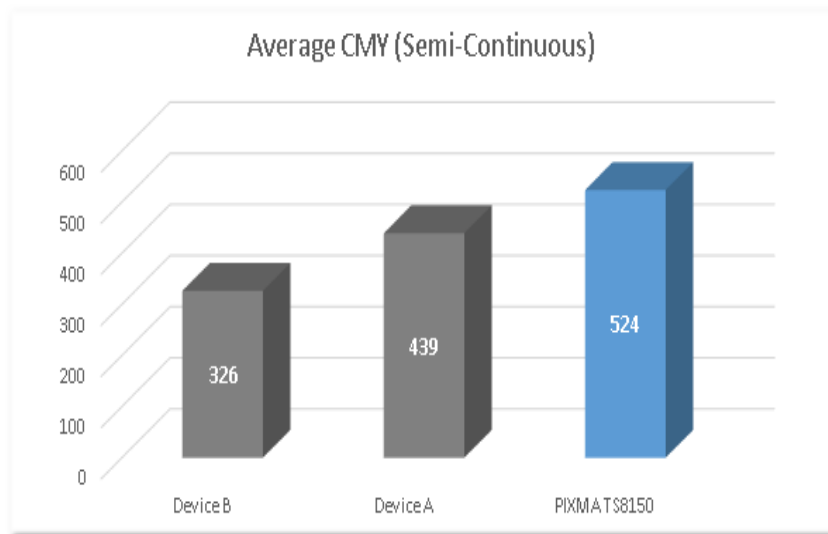


Page Yields (Semi-Continuous)						
	Cyan	Magenta	Yellow	Black	Average CMY	Average CMYK
Canon PIXMA TS8150	522	522	527	407	524	495
Device A	475	382	460	382	439	425
Device B	340	319	320	319	326	325

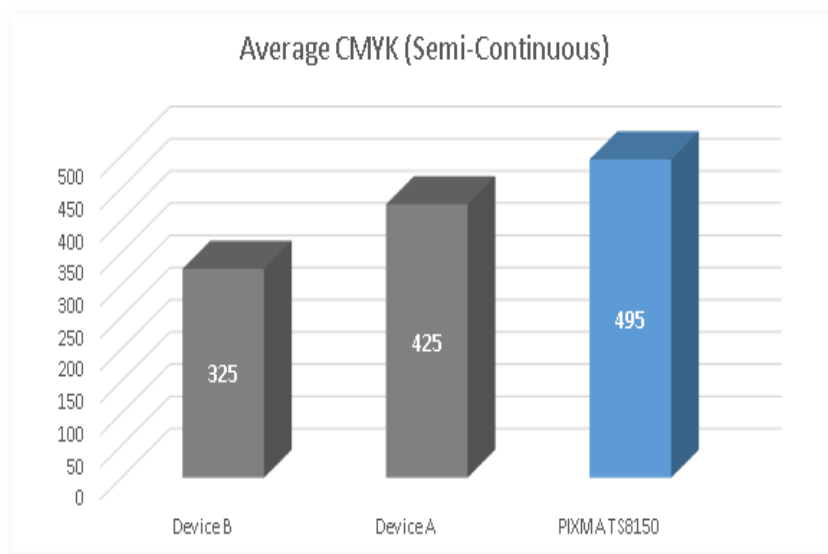
This table shows the individual colour, black, and average CMY and CMYK page yields for each printer device.

Yield Comparisons (Semi-Continuous)				
	% Below Canon PIXMA TS8150's Tested Yield		% By Which Canon PIXMA TS8150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
<b>Device A</b>	-16%	-14%	19%	16%
<b>Device B</b>	-38%	-34%	60%	52%

This table compares the non-Canon device's average tested yield against the genuine Canon device's average tested yield as a percentage.



When printing business documents in a semi-continuous manner, the average CMY page yield for the PIXMA TS8150 was the highest of the group.

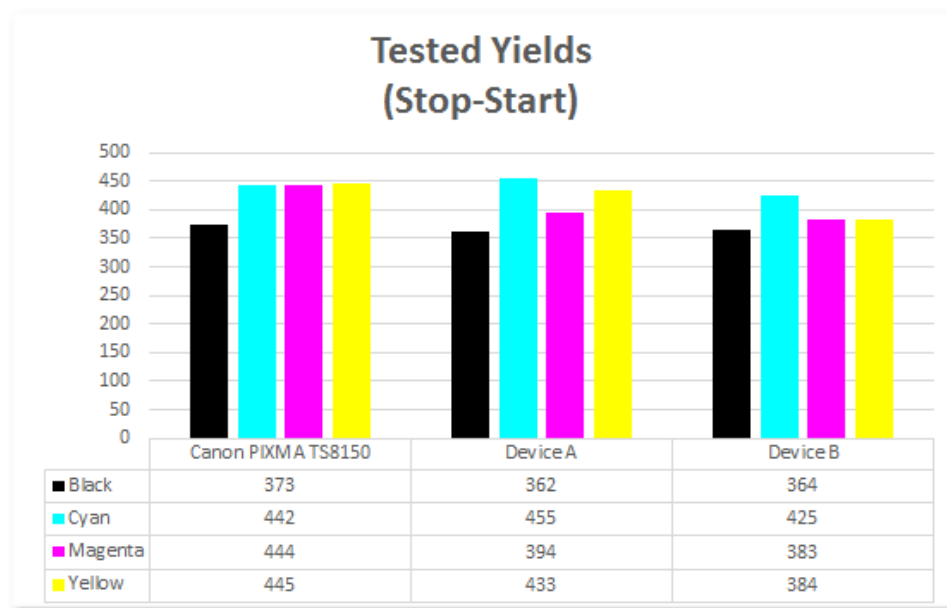


When printing business documents in a semi-continuous manner, the average CMYK page yield for the PIXMA TS8150 was the highest of the group.

## Stop-Start Test

The PIXMA TS8150's yields were once again higher than its rivals' yields, with its closest rival being Device A. The TS8150's average CMY and CMYK yields were 12% and 10% higher than those of Device B, respectively, for example, and 4% higher than those of Device A for both yields. However, Device A's cyan cartridge did produce a slightly higher yield than that of the PIXMA TS8150.

Note that yields for the photo black cartridges are not included in these yield calculations, as their use was negligible. The Canon PIXMA TS8150's Photo Blue cartridge yields are not included for the same reason.

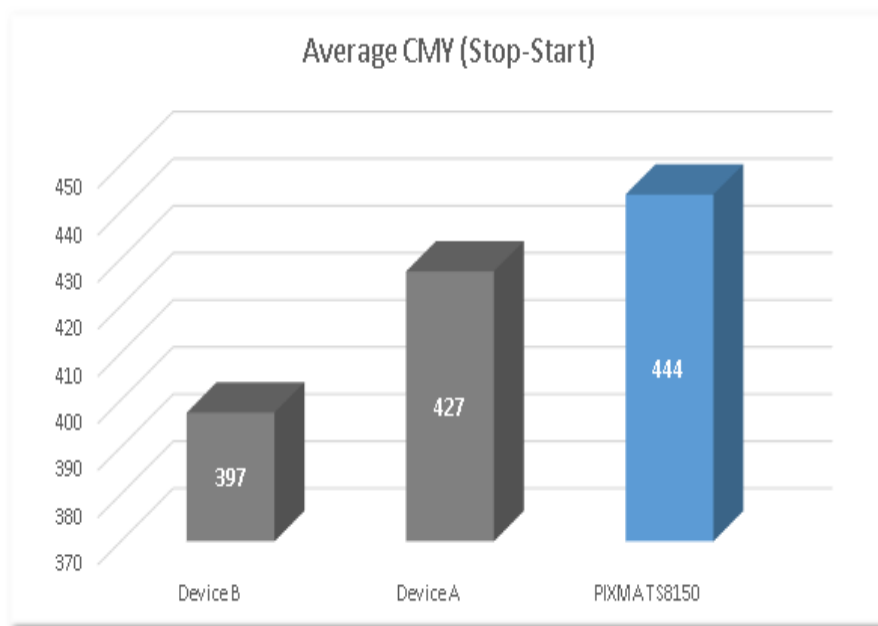


Page Yields (Stop-Start)						
	Cyan	Magenta	Yellow	Black	Average CMY	Average CMYK
Canon PIXMA TS8150	442	444	445	373	444	426
Device A	455	394	433	362	427	411
Device B	425	383	384	364	397	389

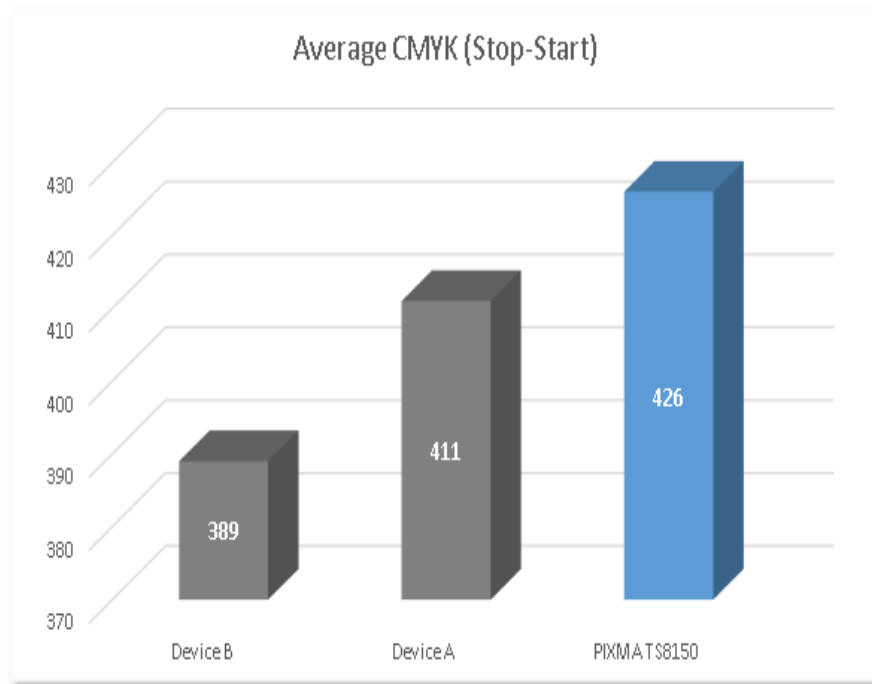
This table shows the average individual colour, black, CMY, and CMYK page yields for each printer device.

Yield Comparisons (Business, Stop-Start)				
	% By Which Canon PIXMA TS8150's Yields are Higher		% By Which Rival Devices' Yields are Lower	
	CMY	CMYK	CMY	CMYK
Device A	4%	4%	-4%	-4%
Device B	12%	10%	-10%	-9%

This table compares the rival devices' average tested yield against the genuine Canon device's average tested yield as a percentage.



When printing business documents in an intermittent, stop/start manner, the average CMY page yield for the PIXMA TS8150 was the highest of the group.



When printing business documents in an intermittent, stop/start manner, the average CMYK page yield for the PIXMA TS8150 was the highest of the group.

## Supporting Test Data

Semi-Continuous					
	CYAN				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	13.0	6.6	0	522
Device A	22.1	14.3	7.8	0	475
Device B	22.2	14.3	8.0	0	340

	MAGENTA				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	12.9	6.7	0	522
Device A	22.1	14.5	7.6	0	382
Device B	22.2	14.4	7.8	0	319

	YELLOW				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	13.1	6.5	0	527
Device A	22.2	14.3	7.9	0	460
Device B	22.2	14.8	7.4	0	320

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	33.0	18.2	14.8	0	407
Device A	37.9	25.6	12.3	0	382
Device B	38.1	25.7	12.4	0	319

	PHOTO BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.5	17.5	2.0	0	527
Device A	22.9	20.0	2.9	0	475
Device B	22.6	19.6	3.0	0	340

	Photo Blue				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	18.7	0.9	0	522

Stop-Start					
	CYAN				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.5	12.9	6.6	0	442
Device A	22.1	14.3	7.9	0	455
Device B	22.2	14.3	7.9	0	425



	MAGENTA				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	12.8	6.8	0	444
Device A	22.2	14.3	7.9	0	394
Device B	22.2	14.3	7.9	0	383

	YELLOW				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.7	13.4	6.3	0	445
Device A	22.1	14.3	7.8	0	433
Device B	22.2	14.6	7.6	0	384

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	33.3	18.1	15.2	0	373
Device A	38.0	26.7	11.3	0	362
Device B	38.2	26.0	12.3	0	364

	PHOTO BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.5	16.7	2.8	0	445
Device A	22.5	19.6	2.9	0	455
Device B	22.5	19.7	2.8	0	425

	Photo Blue				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS8150	19.6	18.2	1.4	0	445

## Test Methodology

Buyers Lab used the starter cartridge set included in a device's box to test the page yield of each printer device. The cartridge set was weighed at the start of testing, run to exhaustion, and then weighed again. Six devices were used in total. Page yield was evaluated per the following:

**A. Ink Yield:** The ink cartridge set included with the devices in the box was run to exhaustion using the ISO 24712 test document suite. Two devices of each model type were used to test the yields with the ISO 24712 test suite—one for the semi-continuous test and one for the stop-start test.

## Test Environment/Conditions

All testing was conducted in a controlled environment at Buyers Lab's test facility located at Wokingham, UK, per the following conditions:

Temperature was maintained at 22°C, +/-2.7°C with daily conditions monitored and logged 24/7 by a seven-day temperature/humidity chart recorder. Relative humidity was maintained within 45% +/- 10% with daily conditions monitored and logged 24/7 by a seven-day temperature/humidity chart recorder. Materials conditioning: printers, paper and cartridges were acclimatized to the above conditions for a minimum of 24 hours prior to testing. Prior to acclimatization, packaging and shipping materials were removed from the printer and cartridges. Paper was acclimatized in a ream wrapper.

## Test Equipment

Total number of cartridges tested:

12 x Canon PIXMA TS8150 starter ink cartridges (2 x six-ink cartridge set)

10 x Device A starter ink cartridges (2 x five-ink cartridge set)

10 x Device B starter ink cartridges (2 x five-ink cartridge set)

## Total number of printers required:

2 x Canon PIXMA TS8150

2 x Device A

2 x Device B

Test devices were purchased by Buyers Lab on the open market.

## About Keypoint Intelligence - Buyers Lab

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Keypoint Intelligence is a one-stop shop for the digital imaging industry. With our unparalleled tools and unmatched depth of knowledge, we cut through the noise of data to offer clients the unbiased insights and responsive tools they need in those mission-critical moments that define their products and empower their sales.

For over 50 years, Buyers Lab has been the global document imaging industry's resource for unbiased and reliable information, test data, and competitive selling tools. What started out as a consumer-based publication about office equipment has become an all-encompassing industry resource. Buyers Lab evolves in tandem with the ever-changing landscape of document imaging solutions, constantly updating our methods, expanding our offerings, and tracking cutting-edge developments.

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