



KONICA MINOLTA

MERSEYSIDE FIRE & RESCUE SERVICE

PRINT AUDIT AND CONSULTATION

22nd November 2016





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EXECUTIVE SUMMARY

Since the Print Management contract was initiated with Konica Minolta (KM) over four years ago, the first devices deployed July 2012, there have been many changes within the organisation. One of the biggest changes, which will have impacted the way print output is developed, is the move to newly renovated offices at HQ. As the layout of the building was changed into a more open-plan environment, this has made it more conducive to having centralised Print Pods.

The aim of this document is to outline the current print environment at Merseyside Fire and Rescue Service (MFRS) and report feedback on all the positive aspects, as well as any areas of improvement with its print estate. It also details why, through further optimisation and redeploying a new and improved Konica Minolta print solution, how we will resolve the issues and help deliver savings.

There are two main sections within this document;

- Print assessment overview i.e. what devices are where, producing what volume and costing how much
- Recommendations to MFRS; the proposed solution, refining what you currently have and how by implementing this on a corporate wide basis, it will inevitably provide a more consistent approach to printing from a user perspective.

Should Merseyside Fire and Rescue Service implement the recommendations there is the potential to save the organisation over **£35k per annum**.

It should be noted that the above will be achieved with NO capital outlay.

Current Machines in Field at Merseyside Fire & Rescue				
<i>Category</i>	<i>Model</i>	<i>Count of Device</i>	<i>Recommended Monthly Volume</i>	<i>Expected Lifetime Capability</i>
A4 Printer	bizhub C3100P	39	6,500	400,000
A4 MFD	bizhub C35	7	6,500	400,000
	bizhub C364	22	25,000	1.5 Million
	bizhub C364e	9	25,000	1.5 Million
A3 MFD	bizhub C368	15	25,000	1.5 Million
	bizhub C654	1	80,000	5 Million
	bizhub C654e	1	80,000	5 Million
		94		

PRINT AUDIT OVERVIEW

The following charts and tables are based on findings made during the Print Assessment. They are presented in 4 main areas:

- Device information per location
- Print/Copy volume breakdown per location
- Utilisation breakdown per location/device
- Total cost by device type with a breakdown of costs

Number of devices at each site

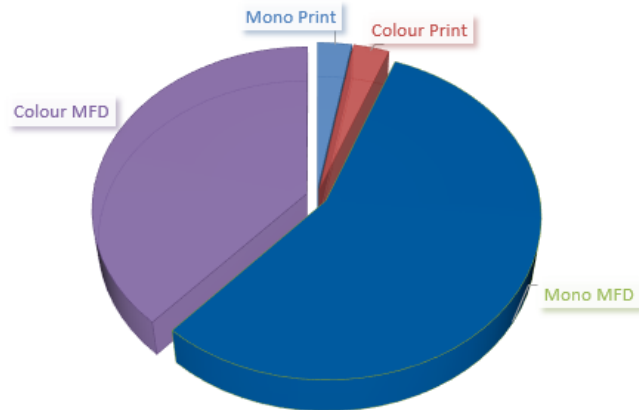
Of the 94 Konica Minolta devices captured, the model mix and count breakdown per site, shown in the table below.

MFRS - Site	A4 Printer	A4 MFD	A3 MFD				Grand Total	
	bizhub C3100P	bizhub C35	bizhub C364	bizhub C364e	bizhub C368	bizhub C654		bizhub C654e
HQ (Bridle Rd)	12	4	7	2		1	1	27
Training and Development			2					2
Vesty Road	1		2	4	1			8
Marine Rescue Unit		1						1
Station 10 - Kirkdale	2				1			3
Station 11 - City Centre	1	1	1		1			4
Station 12 - Kensington	1			1				2
Station 14 - Speke & Garston	1				1			2
Station 15 - Toxteth				1				1
Station 16 - Old Swan				1				1
Station 17 - Belle Vale		1	1		1			3
Station 18 - Aintree	1				1			2
Station 19 - Croxteth			1					1
Station 20 - Birkenhead	1				1			2
Station 21 - Brombrough	2				1			3
Station 22 - Heswall	1				1			2
Station 23 - Upton	2				1			3
Station 25 - Wallasey	2		1		1			4
Station 30 - Bootle and Netherton	4		2					6
Station 31 - Crosby	1				1			2
Station 32 - Formby	1				1			2
Station 33 - Southport	2		1					3
Station 40 - Huyton	1		1					2
Station 42 - Kirkby			1					1
Station 50 - St Helens & Knowsley	2		2					4
Station 51 - Newton-le-Willows					1			1
Station 52 - Eccleston	1				1			2
Grand Total	39	7	22	9	15	1	1	94

The ratio of printers to MFDs is particularly high. As over 40% of the fleet are desktop printers, used primarily by individual users, there would be scope to rationalise these, thus reducing the lease cost significantly.

By Volume

MFRS are producing **2.7million** prints per year. **41%** of this volume is in colour.



MFRS - Site	Printers		MFDs		Monthly Total	% of Total
	Monthly Mono	Monthly Colour	Monthly Mono	Monthly Colour		
HQ (Bridle Rd)	1,727	3,433	66,142	58,823	130,125	57.8%
Training and Development	0	0	4,553	8,188	12,741	5.7%
Vesty Road	133	156	16,672	6,072	23,033	10.2%
Marine Rescue Unit	0	0	2,795	2,035	4,830	2.1%
Station 10 - Kirkdale	309	222	619	228	1,378	0.6%
Station 11 - City Centre	188	278	2,295	1,172	3,933	1.7%
Station 12 - Kensington	226	124	0	0	350	0.2%
Station 14 - Speke & Garston	2	14	656	249	921	0.4%
Station 15 - Toxteth	0	0	835	878	1,713	0.8%
Station 16 - Old Swan	0	0	54	615	669	0.3%
Station 17 - Belle Vale	0	0	5,139	1,888	7,027	3.1%
Station 18 - Aintree	364	144	178	97	783	0.3%
Station 19 - Croxteth	0	0	2,165	95	2,260	1.0%
Station 20 - Birkenhead	76	205	56	477	814	0.4%
Station 21 - Brombrough	177	289	239	183	888	0.4%
Station 22 - Heswall	29	26	304	0	359	0.2%
Station 23 - Upton	52	171	249	180	652	0.3%
Station 25 - Wallasey	172	195	4,998	1,528	6,893	3.1%
Station 30 - Bootle and Netherton	955	672	4,228	878	6,733	3.0%
Station 31 - Crosby	320	65	73	33	491	0.2%
Station 32 - Formby	100	35	91	44	270	0.1%
Station 33 - Southport	474	457	1,771	589	3,291	1.5%
Station 40 - Huyton	424	119	2,573	938	4,054	1.8%
Station 42 - Kirkby	0	0	1,576	397	1,973	0.9%
Station 50 - St Helens & Knowsley	573	38	6,804	463	7,878	3.5%
Station 51 - Newton-le-Willows	0	0	325	271	596	0.3%
Station 52 - Eccleston	39	44	431	0	514	0.2%
Grand Total	6,340	6,687	125,821	86,321	225,169	100%

As you would expect, the vast majority of output is at HQ at **58%**, then Vesty Rd and the Training & Development at 10% and 6%, respectively. The volume output at the each of the stations is pretty consistent, with an average of **2,470** pages per month (1.1% of the total).

The very high colour output must be highlighted. This is an area that, with controls in place could, dramatically cut costs.

By Utilisation*

Across all the Machines in Field (MIF) the average monthly utilisation against the recommended volume is currently **11.5%** and against the lifetime volume capacity is **6.5%**

MFRS - Site	Average Printer Utilisation		Average MFD Utilisation	
	Monthly %	Lifetime %	Monthly %	Lifetime %
HQ (Bridle Rd)	6.6%	1.9%	30.1%	20.7%
Training and Development	-	-	25.5%	21.1%
Vesty Road	4.4%	1.6%	13.0%	8.2%
Marine Rescue Unit	-	-	74.3%	7.9%
Station 10 - Kirkdale	4.1%	0.8%	3.4%	0.7%
Station 11 - City Centre	7.2%	0.7%	7.4%	4.7%
Station 12 - Kensington	5.4%	1.1%	0.0%	0.0%
Station 14 - Speke & Garston	0.2%	0.0%	3.6%	0.7%
Station 15 - Toxteth	-	-	6.9%	3.3%
Station 16 - Old Swan	-	-	2.7%	1.3%
Station 17 - Belle Vale	-	-	13.9%	9.1%
Station 18 - Aintree	7.8%	1.5%	1.1%	0.2%
Station 19 - Croxteth	-	-	9.0%	7.5%
Station 20 - Birkenhead	4.3%	0.9%	2.1%	0.4%
Station 21 - Brombrough	3.6%	0.7%	1.7%	0.4%
Station 22 - Heswall	0.8%	0.2%	1.2%	0.2%
Station 23 - Upton	1.7%	0.3%	1.7%	0.4%
Station 25 - Wallasey	2.8%	0.3%	13.1%	10.0%
Station 30 - Bootle and Netherton	6.3%	1.8%	10.2%	8.4%
Station 31 - Crosby	5.9%	1.1%	0.4%	0.1%
Station 32 - Formby	2.1%	0.4%	0.5%	0.1%
Station 33 - Southport	7.2%	2.3%	9.4%	7.8%
Station 40 - Huyton	8.4%	1.6%	14.0%	11.6%
Station 42 - Kirkby	-	-	7.9%	5.6%
Station 50 - St Helens & Knowsley	4.7%	1.4%	14.5%	12.0%
Station 51 - Newton-le-Willows	-	-	2.4%	0.5%
Station 52 - Eccleston	1.3%	0.2%	1.7%	0.3%
Overall Average	5.1%	1.3%	15.9%	10.2%

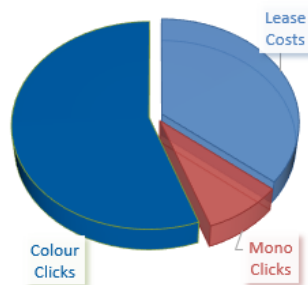
**A device's monthly utilisation is calculated by taking the average volume divided by its respective recommended monthly capability. Lifetime Utilisation is the device's meter reading divided by its expected lifetime capacity*

Utilisation is very low, in almost all areas, which would initial lead you to think that either; (i) there are too many devices or (ii) the devices are over-spec'd. However, in many instances this cannot be helped as the recommended volumes on the device are high for the required specification of the device; for instance, where an A3 36 page per minute device is required, it's capable of producing 25,000 pages per month. As all the stations have an A3 requirement, but only producing an average of 2,450 page, would stand to reason they are at only 10% of their capacity. Only three devices in HQ (HR, Finance & Ops Planning) are operating above 50% of their capability.

Another factor affecting the low utilisation percentages are the high number of individual printers with low usage. Removing desktop printers, migrating this to the MFDs would ensure that all devices are being used efficiently.

By Costs

To produce the 2.7 million prints each year, it costs MFRS a total of **£63,414** per annum.



This calculates as an average of **2.35p*** per page, excluding the paper and electricity costs.

**MFRS's contracted click costs are £0.0035 mono and £0.032 colour – with the exception of the C654e in HQ Reprographics, £0.0028 mono and £0.028 colour.*

MFRS - Site	Annual Printing Costs				%Total
	Lease	Mono Click	Colour Click	Total	
HQ (Bridle Rd)	£5,315	£2,791	£23,407	£31,513	49.7%
Training and Development	£493	£191	£3,144	£3,829	6.0%
Vesty Road	£2,295	£706	£2,392	£5,392	8.5%
Marine Rescue Unit	£97	£117	£781	£996	1.6%
Station 10 - Kirkdale	£675	£39	£173	£887	1.4%
Station 11 - City Centre	£1,198	£104	£557	£1,859	2.9%
Station 12 - Kensington	£432	£9	£48	£489	0.8%
Station 14 - Speke & Garston	£576	£28	£101	£705	1.1%
Station 15 - Toxteth	£355	£35	£337	£727	1.1%
Station 16 - Old Swan	£355	£2	£236	£593	0.9%
Station 17 - Belle Vale	£949	£216	£725	£1,890	3.0%
Station 18 - Aintree	£576	£23	£93	£691	1.1%
Station 19 - Croxteth	£247	£91	£36	£374	0.6%
Station 20 - Birkenhead	£716	£6	£262	£984	1.6%
Station 21 - Brombrough	£839	£17	£181	£1,038	1.6%
Station 22 - Heswall	£576	£14	£10	£600	0.9%
Station 23 - Upton	£839	£13	£135	£987	1.6%
Station 25 - Wallasey	£1,234	£217	£662	£2,112	3.3%
Station 30 - Bootle and Netherton	£879	£218	£595	£1,692	2.7%
Station 31 - Crosby	£576	£17	£38	£630	1.0%
Station 32 - Formby	£576	£8	£30	£615	1.0%
Station 33 - Southport	£420	£94	£402	£916	1.4%
Station 40 - Huyton	£345	£126	£406	£877	1.4%
Station 42 - Kirkby	£305	£66	£152	£524	0.8%
Station 50 - St Helens & Knowsley	£669	£310	£192	£1,171	1.8%
Station 51 - Newton-le-Willows	£593	£14	£104	£711	1.1%
Station 52 - Eccleston	£576	£20	£17	£613	1.0%
Grand Totals	£22,707	£5,491	£35,216	£63,414	100.0%

The table above shows that half the total printing costs are borne at HQ. With the stations bearing an average of 1.5% of the total costs.

FUTURE RECOMMENDATIONS

The following Konica Minolta recommendation have been developed to provide optimal return on investment on the following proposed Print Estate.

The key areas on how to easily reduce costs would be:

- Rules-based printing,
- Print Management – “Pull Printing”
- Removal of individual desktop printers
- Specification of the devices (review/consideration)

Rules-based printing.

We would recommend that all print output is actively managed, for example, setting print drivers to default as mono and duplex all print jobs. As highlighted previously, MFRS has a very high colour output at **41%**. Whilst there may be a very legitimate business requirement for colour, this could still be easily reduced. One way of reducing colour costs is to re-direct any print to the Bizhub C654e, as these click charges are 12.5% cheaper than the rest of the fleet. Further savings can be made with the right controls implemented;

This table below shows the annual savings that could be made, by migrating the colour print to mono.

	Colour %		
	20	15	10
Saving	£15,848.34	£19,698.73	£23,549.12

Assuming the volumes stay the same and conservatively halving the colour output, could reduce the organisation's costs by **£16k** per annum. Following best-practise, most organisation can reduce their colour output to 10% (or indeed, less) - in doing this MFRS could save **£23,500** per year. That's the annual salary of a trainee Firefighter saved, simply by migrating colour print to mono!

What is pull printing?

Pull Printing is a printing feature where a user's print job is held on a server and released by the user at any Konica Minolta device simply by swiping an ID card. It is also referred to as 'Follow Me' printing. Once they have been authenticated, the user may select from the list of print jobs on the server which ones they wish to release at the current device.

The recommendation to MFRS is to install a secure printing solution to take full advantage of the following features and benefits:

- **Flexibility:**
 - The user can print first and then choose the closest or most convenient printer available.
- **Costs and environment:**
 - Unwanted documents are not printed unless the users card is swiped in the printer and can be deleted by the user at the MFD if necessary.

- **Security:**
 - The user must authenticate (e.g. With an ID card).
 - Documents will only print when the user authenticates at a device and chooses to print them.
 - Users can ensure no-one else reads private or confidential documents because the user will be waiting at the printer for the printing to finish.
- **Accounting:**
 - Default print settings will be set to duplex and mono (black and white) – both reducing paper usage and printing costs, this can be enforced across the estate.
 - Jobs that are not printed by users will automatically be deleted after a pre-determined timeframe, this will be agreed with MFRS upon implementation of solution
- **Continuity of print**
 - The solution will maximise user ability to print – when a device is not working or out of toner the users will be able to print at the nearest available device, without impact to productivity.

On average every 1 in 5 printed pages is wasted, as it is either printed in error, or left on the MFD and someone else has picked it up. Reducing the running costs by 20% by implementing a pull print management process in place, would save MFRS a further **£8,141** per year.

Individual printers (Bizhub C3100p).

There are 39 printers in the printer fleet costing an average of £100 per year in lease charges.

Not every one of these printers is essential and they are certainly not being utilised to their full capability, as the average monthly volume on printers is only 334 pages. Encouraging individuals to print to a centralised MFD would remove this extra lease cost, and potentially, assuming all printers are removed, reduce the organisations costs by a further **£3,922** per annum.

Current MFD specification

Of the 24 fire stations across the county, 23 have a 36ppm A3 MFD (exception being at Marine Rescue Unit, where they have an A4 MFD). With the average output of 2,450 pages at each station, there could be a business rationale to reduce the specification of the MFD to a smaller engine to increase the savings on lease costs.

*****This would need further investigation, as it might not prove popular with end users, if functionality that they are used to and is essential to their role, is being removed*****



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