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## Microfilm is here to stay

**By Jacqui White – marketing specialist, Kodak Limited**

Despite the tumult experience in the document management marketplace over the past five years, one often-overlooked area that has been ticking along nicely is that of micrographics. Document management and especially COLD (Computer Output to Laser Disk) has often been touted as sounding the death knell for the micrographics industry. However, just as image processing will never replace paper, it is unlikely that document management will negate the need for its older sibling. This article explores the differences between electronic document management or imaging and micrographic technologies and highlights areas where microfilm may still be the most effective solution.

Microfilm is a unique back-up medium because it can be read by the eye without the need for hardware or software. Like paper, microfilm is an analogue-medium that can be viewed by anyone, anywhere. Microfilm is also much less costly for back-up purposes than digital media; it is consistent in that it does not need continual hardware/software upgrades and it does not crash. Furthermore, the longevity and stability of microfilm is proven. Although document management vendors make claims to the longevity of their media, it should be noted that these are claims and do not include the fact that accessibility may be reduced due to technology changes.

There are five broad benefits to the use of microfilm:

1. **Security:** Microfilmed records may be duplicated and stored in off-site storage allowing recovery and retrieval in case of loss, theft or damage.
2. **File integrity:** Documents remain in fixed locations on the film, eliminating the possibility of misfiling or alteration.
3. **Storage savings:** Microfilm requires about 2% of the space required to store the equivalent documents in paper format. One roll of film could contain as many as 9,000 A4 Documents.
4. **Duplication and distribution:** Microfilm is cheaper to duplicate and distribute than the equivalent paper records
5. **Retrieval:** Automated or manually indexed microfilmed records can be quickly and accurately retrieved.

In fact, far from sounding the death knell for microfilm, the advent of electronic document management has help develop new opportunities for document retention on film. This has highlighted the need for a totally permanent method of long term storage of images, which has still yet to be proved within the remit of document management/image processing.

## **The document lifecycle**

Document management means storing, distributing and managing both structured and unstructured information. Information that is contained in a letter, a report, a picture – either on paper, in electronic form or in some other format, are examples of unstructured information. Information comprising of text or numeric data that is put into a database, that is information that can be grouped and analysed, is structured information.

In practice documents management usually involves capturing the images of a document (usually on paper), storing it on another medium, and entering basic details about the document into an index. Using that index you can then retrieve that document image when you need to consult it.

The ‘document’ in document management usually means information held and transmitted on paper. That is because documents that need to be preserved and referred to – invoices, contracts, agreements, letters to customers etc. usually reach the organisation in paper form. However, ‘document’ could just as easily refer to word processing files, photographic images, audio or video recordings, and so on. All can be filed and indexed in just the same way as scanned paper documents, and retrieved when needed to PC or printer.

Every document that enters an organisation may be seen to go through a lifecycle. Issues such as regulatory requirements, legal/contractual concerns, and the needs of users, will dictate how long a document should be kept for and in what format.

When a document has just been created, or has just entered the organisation, it will typically experience frequent usage. The need for relatively quick access to the document may be high. As the document ages, it may be viewed less frequently. Eventually the document may never need to be viewed again, unless in the event of a contractual or legal dispute, in which case access to the document will be required, but retrieval times may not need to be so prompt.

In the past, micrographics techniques have been applied to all these stages of the document lifecycle. However, in recent times electronic document management and imaging has seen to be a replacement for microfilm in the case of unstructured information, and Computer Output to Laser Disk (COLD) has seen to be a replacement for microfilm in the case of structured information.

## **Microfilm v electronic document management**

(Unstructured output)

It may be true that in cases where users may need simultaneous access to a document, or need the ability to quickly alter or amend a document, an electronic document management system may offer quicker access times than a microfilm. Viewing more than one page of a microfilmed document in a different order to that in which it was captured, may also be more time consuming. But it may be erroneous to assume that an EDM system offers a total replacement to a microfilming system. When assessing which documents need to be stored in an electronic format, the question should be asked “how often will these documents be accessed – and how quickly do they need to be retrieved?” In most cases, continued storage in microfilm format may be the most cost-effective solution.

Of course, this solution to this situation is well documented within the document management industry. Documents that are frequently accessed and require instantaneous retrieval times may be stored on magnetic disk. As the document ages, it may move to magnetic tape, online optical storage, and then on to near-line storage on optical disks in a jukebox. The disks may then be stored ‘off-line’ in shelf storage until needed (for example in the event of a legal dispute). However, as set out at the beginning of this article, the claims by optical disk manufacturers, as to the longevity of their media, are at the moment just claims. What’s more, technological change may lead to the storage media becoming outmoded. Industry opinion suggests that computer software has a useful life of around three to four years. Electronic hardware is becoming obsolete on a yearly basis, but may be seen to have at most a four to five year life period. If a document has to be kept for over 40 years (for example, in the case of a life insurance policy), the storage requirements in terms of hardware and software must be able to guarantee the ability to span this entire period. Migrating and updating literally millions of documents every time hardware and/or software is upgraded or replaced, may turn out to be a costly option. Even a document that has to be kept for just six years may endure up to three generations of software! And this does not take into account the speed at which storage technologies are evolving, in terms of both tape and optical.

### **Microfilm v COLD (structured output)**

Perhaps the biggest 'Microfilm Killer' quoted in the past few years has been Computer Output to Laser Disk, or COLD. COLD has been mentioned as a replacement for Computer Output to Microfilm, but COLD too may be seen to suffer from the same potential disadvantages of the EDM system. Although the advantages of being able to retrieve information quickly, and sort it within a user's own parameters may be deemed useful in the short term, the storage media (in the case of COLD typically CD-ROM) may become obsolete (and again the longevity of the media has been estimated, not yet established). Even now, a CD drive has to cope with a number of CD 'standards' (eg. CD-DA, CD-ROM Mode 1, and CD-ROM XA in modes 1 and 2 formats). As stated above, storage technologies in terms of both tape and optical is advancing at an incredible rate, and compatibility with current 'standards' may not be guaranteed.

### **Avoiding the pitfalls**

- I. *Culture Shock.* Over the next few years, many organisations will be embarking on document management for the first time. Their staff will be used to methods and procedures in force before document management was introduced. New technology is of no use whatsoever if the people are not trained and encouraged in its use. Good suppliers will be able to provide training (at a price) and should be willing to advise you on how to present the benefits of document management in ways which appeal to the staff who will be working with the system.
- II. *Over-enthusiasm.* There always has to be a good reason for storing any particular document. By no means will all the documents that come into your organisation need retaining. Don't waste money capturing and storing every piece of information you can lay your hands on. If documents aren't going to be referred to, throw them away if you can! Perhaps your document management system will scan documents to hard disk for initial frequent reference (most systems do this) and can then archive them to microfilm for longer term storage. Think hard about which documents need archiving and which can be simply deleted.

### **Conclusion**

In conclusion, document managers should ask themselves crucial questions regarding the longevity of a document. Microfilm may be seen to be an area of calm in terms of technological change, offering a guaranteed medium on which to store documents, that has the benefit of sound standards and legal admissibility. There is information available that has been stored for 70 years and is still in pristine condition. All the 'equipment' needed to view that information is a good source of light – and that information is totally complete and fully retrievable without technology.

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