WHITE PAPER

A small decision-making aid for the secure, economical and sustainable disposal of company data

Destroying data on magnetic media irretrievably: Shredding or degaussing – which is better?

The fact is: This year the unimaginable number of around 125 zettabytes of data will be generated worldwide. And according to forecasts, this number will continue to grow by between 20 and 30 percent in each of the next few years. To illustrate: A zettabyte is one trillion bytes, which is a number with 21 zeros. If you were to store only a zettabyte of data on DVDs and stack all the media you need, then this DVD tower alone would be around 52,000 kilometres high. A major driver of the overall data generated is the use of any form of cloud services. And, of course, companies around the world also have a significant share of the generated data volumes. For archiving and backup purposes, this data is stored on various types of data carriers, which of course include magnetic media such as HDDs and LTO tapes. These house data and information on customers, contractors, business data, business development strategy, and marketing and financial plans, to name only a minimal selection of sensitive and confidential information. Data protection regulations and regulations oblige the sparing storage of necessary data and stipulate the periods after which data are then to be destroyed again. This task is incumbent on the companies - and they have to find the best method for themselves to delete data securely and permanently.

Up to now, the prevailing opinion was that the destruction of data carriers should be done in the same way as with the destruction of information recorded on paper, namely by shredding it. Accordingly, there is a wide range of devices on the market that shred media into small pieces, punch holes or break them – and many users are convinced that such physical fragmentation of media guarantees the effectiveness of the data destruction process. Unfortunately, this method of destroying data is not completely secure. Some data can be recovered from damaged media. It's not easy, but it's possible. There are many reputable companies and authorities, but unfortunately also people with criminal energy who can recover data from shredded media, even if they have been cut into the smallest pieces.

Data destruction by magnetic field or brute force

An interesting alternative to such a brute procedure for destroying data on magnetic media, which also promises maximum security, are so-called degaussers (demagnetizers). Their functional principle is very simple: Let's imagine that the surface of a hard disk is covered with countless very small magnets. Each magnet has two poles - N (North Pole) and S (South Pole). When data is written on the disk, the poles line up according to the order of the bits (digital ones and zeros) that make up the data, such as a text file or a photograph. The process of degaussing now aims to change the magnetization along the surface of the platter in such a way that all the magnetic poles are randomly arranged. A degausser achieves this for a fraction of a second, which affects the hard drive. In addition, servo paths and disk calibration information are destroyed. As a result, the hard drive cannot be reused, and all data previously stored on it is irretrievably deleted.

The whole process takes just a couple of seconds using a high-end degausser device like ProDevice's ASM240, which is available from data centre optimiser Daxten. Exactly as required by data protection law, the destruction is fully automatically documented as an image and video using integrated functions. Whereas with shredding, every single step of the destruction must be recorded, photographed, filmed and logged manually by the staff.

Space-saving, flexible and health-friendly

Degaussers score big because they work quietly and, unlike shredders, do not produce enormous noise and sharp-edged small parts or emit dust and the pollutants it contains. And last but not least,

degaussers with the footprint of typical office equipment are very compact, space-saving and can be used flexibly at different locations - especially when you compare them with automatic shredders, which often reach dimensions that are more familiar from high-performance copy machines, and with weights between 500 and over 1000 kilograms cannot exactly be described as handy and mobile.

Recyclability for sustainable and resource-saving data destruction

Electrical and electronic waste equipment and associated components, which of course also include magnetic data carriers, cause one of the fastest growing waste mountains in Europe. A declared goal is to recover treasures such as rare earth elements or permanent magnets from this via recycling processes, because Europe is dependent on the import of these materials and raw materials, as there are currently no marketable substitutes available. The higher the recovery rate of these materials during recycling, the greater the reduction in dependence on exporting third countries and their maximum price policy. Retrieving the valuable materials from degaussed but physically undamaged media is of course incomparably easier, more effective and more productive than from shredded, broken or otherwise destroyed magnetic media carriers.

The cost-benefit aspect

As always, when comparing two alternative solutions, the question arises: which costs more? And as always, there is no general answer to this, because of course you have to take the benefits and also future investment advantages or avoided risks into account. Standard or manually operated devices that shred large parts of magnetic data carriers are sometimes cheaper than professional solutions that generate a magnetic field for data destruction. As already mentioned, it is possible to recover shredded data. Every company must calculate for itself the granularity and level of security with which data and data carriers are to be destroyed, how high the risk and the costs would be if data fragments fell into the wrong hands and caused enormous financial damage, a damaged company image and a loss of reputation and sometimes also legal consequences. Against this background, the somewhat higher purchase price of a degausser that irretrievably destroys data is more than justified. A clear statement can be made about the cost advantage of a degausser compared to an automatic shredder, which cuts data carriers into tiny pieces, and means that a higher degree of data destruction security is achieved, but which does not come close to that of a degausser: An automatic shredder is definitely very expensive and often many times more expensive than a degausser.

Conclusion

The destruction of data on magnetic media should best be entrusted to a degausser for reasons of reliability, security, flexibility, sustainability, risk minimization and cost savings.

To dive deeper into this subject and for more best practices to destroy your data irretrievably, please visit www.daxten.com/uk/

DAXTEN COMPANY PROFILE

For more than 29 years Daxten has provided innovative solutions to the Data Centre Industry. The company offers cutting edge cooling optimisation, power distribution, monitoring and infrastructure solutions that improve the resource efficiency, reliability and security of the data centre. For further information, please contact us on +44 (0)20 8991 6200, via info.uk@daxten.com or visit www.daxten.com/uk/.

ABOUT PRODEVICE

ProDevice is a leader in modern technologies of data removal from various types of storage media. We have been operating continuously since 2012, producing the highest quality degaussers and media shredders/destroyers. The products meet strict standards related to data protection, defined by international guidelines and legal regulations, such as GDPR. Adapting to the constantly changing digital world, we focus on reliability, best design and efficient service of our products. Thanks to this approach to business, we have quickly gained the trust of our customers. The consequence of our development policy has become close commercial relations with our partners in over 50 countries around the world: in Europe, South America, North America, Asia. For more information, please visit https://www.pro-device.com/en/