

REDUCE, REUSE, RECYCLE

Carl Trotzig, explores what can be done to ensure a sustainable future for the security industry

Recent events, global uncertainty and heightened scrutiny has caused many organisations to examine their core values, bringing sustainable practices to the top of the priority list. Alongside conversations about ways of working and health and safety procedures, companies are particularly focusing on how their individual practices are impacting the environment.

This includes everything from where materials and components are sourced, how they are transported, the expected lifetime of products and the working conditions for the personnel who create them. In addition, external pressures exist where an increasing number of customers are making demands of their suppliers to be more sustainable, which will drive further change. Every sector is under scrutiny and the security industry is no different.

While security companies have been committed to becoming more sustainable for years, and are setting goals and constantly benchmarking their efforts, there are still several areas where improvements can be made.

In contrast to a traditional linear economy, more are looking at ways to apply the concept of the 'circular economy' to their businesses. This term outlines an economic model based on principles which encompass all stages of the product lifecycle; one which starts in the design phase, looks to extend a product's lifetime, examines the consumption of energy and resource consumption in manufacture and use, and also addresses a product's end-of-life and recycling.

The concept of the 'circular economy' is not new, but is once again gaining traction across industries. With this approach, companies can consider a product's sustainability and recyclability early in the design phase through the specification and choice of materials. This could mean phasing out finite natural resources – such as fossil-based plastics – and sourcing bio-based or recycled materials instead.

It is important that these considerations extend beyond the production phase. This means manufacturing products with superior functionality and durability to better withstand wear and tear. As the product's performance declines, companies can offer customers product support or repairs instead of convincing them to buy new products. Similarly, updating or designing new platforms and systems also helps keep customers' costs down and increases their return on investment. A 'cradle to cradle' approach should be adopted by business leaders to ensure that products (and their

components) remain in the lifecycle for as long as possible and, where possible, have lifecycles beyond that of the original product.

Unfortunately, many factors to achieve full circularity are outside the manufacturer's control (rather in the hands of national regulations and priorities), but it is important to address things that they are able to control. It is critical to make the whole circle spin as slowly as possible, hence designing durable products and providing support and repair services help achieve long product lifetimes. In addition, companies should strive to increase the usage of recycled materials, thus closing the loop.

In the circular economy, the focus is generally on one material at a time. However, it is unrealistic to assume that a material will maintain the same resilience throughout its lifetime. For example, recycling will downgrade the quality of plastic, which will eventually end up as waste in landfill or being incinerated. Despite the initial good intentions to reuse this material, plastic will inevitably have a negative environmental impact. As a result, many industries are looking at how and where they use plastic and working to eliminate plastic from their processes. Where this isn't feasible, some surveillance organisations are planning to increase the amount of recycled plastic in products, compared with virgin plastic.

TRANSPORT IS AN AREA WHERE PROGRESS CAN BE MADE WHEN IT COMES TO REDUCING EMISSIONS

On the other hand, most metals can – depending on the alloy – be recycled almost infinitely with preserved quality and functionality. If this material can be incorporated into more products, it will have a significant positive impact on recycling levels. However, it is important to remember that the disadvantage when using metals is the weight, which becomes environmentally relevant when considering transport: emissions will be higher for products with metal compared with a plastic chassis.

In the surveillance sector – like many other electronic devices – cameras typically contain Polyvinyl Chloride, better known as PVC. Although it is a highly versatile



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material, issues are encountered during the processing and combustion of PVC. Plasticisers are needed to make the material soft and many of the phthalates that are commonly used are harmful to the environment and human health. In addition, dioxin – a very toxic gas – is given off during the uncontrolled combustion of PVC.

In addition to PVC, the industry is committed to phasing out brominated and chlorinated flame retardants (BFR/CFR). These act to protect a product from being flammable over the period of its lifetime, but many of the BFRs are considered toxic, persistent in the environment and bioaccumulative. For these reasons, proper end of life treatment is critical for all waste electrical and electronic equipment (WEEE) to minimise the total life cycle impact.

From a wider perspective, there are also alternative, more sustainable business models. These include 'deposit systems' where the customers receive compensation for returning end-of-life products upstream in the value chain for recycling. For example, the manufacturer can pay for the return shipping, or there might be discounts on new sales. Product rental is also a viable solution and offers customers increased flexibility for investment.

It should be noted that these business models all come with their own challenges, from legislation to the lack of infrastructure. The good news is that companies in various industries have proved the success of a fresh approach, by setting up their own systems where customers can return used product for recycling, reuse or composting.

There are many examples of how this works in practice outside of the surveillance industry. Optical and imaging product provider Canon made a name for itself by pioneering a printer cartridge recycling program as far

back as 1990 and it is still going strong. Just recently, Ikea announced that it will start rolling out a furniture rental pilot test. The Swedish furniture giant has also committed to only use renewable and recyclable materials by 2030, and that all products should be easy to reuse, repair and recycle. There is an opportunity for security companies to adopt similar models and commitments where possible.

Many businesses are aiming to improve energy efficiencies, to reduce costs and their environmental impact. It's important to minimise not just the energy consumption during production, but the amount of CO₂ produced related to energy consumed. This can be achieved by prioritising energy efficient activities and switching to fossil-free energy in production processes.

Transport is another important area where progress can be made when it comes to reducing emissions. Manufacturers rely on robust supply chains, where materials are sometimes shipped across land, air and sea. Companies must assess the geographical location of their suppliers and whether it is feasible for their ecosystem to be shifted so that regional supply chains – where products are manufactured on the same continent where they will be sold and used – are prioritised.

It's critical for the manufacturing process to be energy efficient, and that must extend to the whole surveillance solution – not just the cameras. Energy consumption is not uniform across the solution and in some cases, slightly more energy is used by the camera. However, this can be offset by reducing the need for storage as it requires a lot of energy. But by implementing certain technologies, the need for storage can be reduced by more than 50 percent.

In addition, it is essential for devices in the surveillance sector to function optimally for 24 hours a day, as incidents can happen at any time. Using intelligent technology which saves energy by automatically adjusting to different conditions (such as low ambient lighting) will ultimately make the solution more sustainable and cost effective.

One thing that cannot be ignored is the disposal of composite materials. Most plastics, including PVC, are made from fossil material which, when combusted, contributes to an increase in greenhouse gases, and PVC additionally generates toxic dioxin gas when combusted. This is yet another compelling reason for businesses to be conscious when choosing materials.

Although it is critical for companies to ensure that their own practices are sustainable, they must not neglect their supply chain. In addition to choosing suppliers who are geographically closer to minimise transport times, they must be certain that these companies are in alignment when it comes to sustainable practices. Companies can take several steps to ensure their supply chain is as sustainable as possible. These start with fostering an open and transparent relationship with each supplier to understand individual challenges, risks and any local variations in regulation. Having these relationships supports visibility into suppliers' own processes and applying codes of conduct guarantees commitment to standards. This conduct should be reviewed on a regular basis to keep it up to date.

Different countries might adhere to different ethical and social norms, where sustainability regulations could be less mature, too generous or not enforced. It's these practices that need to be reviewed and adjusted to the values and philosophy of the business that partners with

the suppliers. A good relationship will ensure that suggestions can be offered and discussed to help them improve their own approaches to sustainability.

There will be instances where suppliers meet most but not all the sustainability requirements that are set by the company. In these cases, training can be invaluable to instigating change. Businesses must make education a central part of their business philosophy, for both partners and suppliers. Local training for suppliers can help to raise awareness for sustainability issues and provide suggestions on how to tackle them.

A commitment to sustainability is an ongoing process and regular audits help ensure that standards are consistently met. They can be tailored to the region, but should focus on the key elements. This could include verifying appropriate controls to minimise energy and water consumption as well as materials used.

It should be noted that changes take time and adjusting to new business models and processes is not without its challenges. This should not deter security companies from continuously assessing their processes and making adjustments. A sustainable mindset should underpin every decision, from which supplier to choose to how products are designed and what materials are used. There is also an opportunity to consider more innovative approaches and options to overcome any challenges or new areas for improvement they encounter. The world is changing and environmental issues will continue to remain at the forefront of customers' and partners' minds. It is critical for security companies to demonstrate their long-term commitment to achieving their environmental goals, not only to align with their customers' values but to ensure a sustainable future in line with Agenda 2030 and the UN Sustainable Development Goals ●

Carl Trotzig is Director Quality & Environment at Axis and is responsible for securing the product quality that Axis delivers and for the company's environmental performance.

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