

Harnessing innovative technology to maximise efficiency



Artificial intelligence, robotics and big data analytics are helping to revolutionise the cannabis industry by boosting efficiency and increasing profitability, says **Thomas Walker**.

The cannabis industry around the world has experienced tremendous growth in recent years, and new technology is playing a key role in this transformation. Here are some of the innovative tools and systems adopted.

- **Artificial intelligence (AI)**

AI has many potential applications in the cannabis sector, including improving customer service, developing new products and services, streamlining transactions, automating processes for compliance and quality control, and increasing operational efficiency.

It can be used to analyse customer feedback and preferences, giving businesses an edge in determining which products are in demand and how they can meet these demands.

AI can provide insights into market trends by interpreting data from sales, customer service, and other sources.

It can be used to automate processes for compliance and quality assurance.

It can even be used to design and oversee the construction of facilities for the commercial production of cannabis, enabling busy operations to better monitor their facilities and equipment.

- **Big data analytics**

So-called big data analytics have become indispensable within the cannabis industry, as they can process vast amounts of data quickly and accurately, enabling businesses to identify trends in sales, customer preferences and other factors. These trends in turn can help to inform decisions about product development, pricing and marketing strategies.

Big data analytics can also be used to identify potential contaminants in cannabis products and help businesses to produce safe, high-quality products.

By analysing data on production, distribution and sales, businesses can optimise their supply chain management to reduce waste and increase efficiency.

Finally, data analysis of past sales and customer preferences can enable businesses to predict future demand and adjust their production accordingly.

ROBOTICS CAN BE USED TO MANAGE HARVESTING, HELPING TO ENSURE CONSISTENT YIELDS AT ALL TIMES

- **Robotics**

The use of robotics is another area of innovation in the cannabis industry. Automation technologies can relieve workers of many tedious tasks, such as trimming buds and sorting and stocking products.

Automated systems can also be used for hydroponic and aeroponic growing systems, allowing for precise temperature, lighting, and nutrient control. Additionally, robotics can be used to manage the harvest process, providing accurate, consistent yields regardless of the strain or season.

Finally, robotics can be used to assist with packaging, labelling, and distribution, helping businesses meet customers' needs quickly and efficiently.

- **Blockchain**

The cannabis sector is embracing blockchain technology.

Applications based on blockchain technology can simplify transactions, payments, and other financial services while offering firms safe and open transactions. They can also offer essential

documentation for tracing the distribution of cannabis goods along the supply chain.

INCREASINGLY ADOPTED, BUT NOT FOR EVERY PRODUCER

The cutting-edge technologies described here are being used by more and more commercial cannabis producers as the industry develops, and this trend is likely to continue. These innovations not only increase efficiency and profitability, but assist in enhancing safety and quality control.

Nonetheless, there are a couple of drawbacks to be aware of.

The first of these is that few smaller firms are able to employ these technologies; they are expensive to purchase and implement, and require specialised knowledge to use and maintain.

The second is that because the information gathered by these technologies has the potential in certain cases to be utilised for surveillance and other types of control as well as for market analysis, its accuracy and security need to be confirmed.

Nonetheless, the cannabis industry, like so many others, stands to benefit considerably by the adoption and customisation of advanced digital technology solutions. And when these solutions reach critical mass as more and more companies leverage their power, others will inevitably follow suit in order to remain competitive.

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