

Cannabis – the future trends for industry



At Science Group we're helping a wide variety of clients interested in incorporating cannabis into their businesses and products in a number of ways.

For example we're working to:

- Address the scientific and sensory (taste texture) challenges around incorporating cannabis-derived products into Food and Beverage products
- Build advanced agricultural tools to enable the rapid scale up of legal cannabis crops around the world
- Understand the regulatory barriers and opportunities across the world
- Develop R&D tools to measure physiology (stress, skin/hair quality, nutritional status) to help understand the benefits of applying these products

Cannabis has gone through several societal trends and perceptions: from the heady days of love and freedom in the 1960s, particular to a definitive demographic, through to being the focus of the legalisation debate in the 2000s. But it is going through another shift as we're seeing it taking more centre stage across a range of industries in the products and services being offered.

Public opinion on cannabis has therefore changed over the years and as of 2017, over 60% of Americans believe it should be legalized compared to the 34% from 2002. Medical cannabis is even higher at 93%, per poll results from April 2018. [CBS Insights]

For instance, Canada legalized the recreational use of cannabis in October 2018 — becoming only the 2nd country in the world to do so. Medical marijuana is already legal in more than half the United States, and eight states (plus Washington DC) have legalized marijuana for recreational use. And in the US, the Farm Bill was signed into law in December 2018. This legalizes production and cultivation of hemp (a type of cannabis plant with low THC levels) on a federal level.

Legal cannabis is now a fast-growing global industry. And while it remains a niche product, it's proving to be disruptive, impacting everything from beverage production to home construction, medicine to cosmetics, banking to farming.

Global funding to cannabis companies reached nearly \$2.2bn and saw over 300 deals – an increase of nearly 150% from 2014, just four years earlier – and setting a new record high for this emerging industry. [CBS Insights] Recent analyst reports estimate that the global marijuana industry will reach more than \$20bn by 2025.

↪ Agri-tech

For the Agri-Tech sector the focus is on companies developing technology to help plant and nurture cannabis crops.

Hemp (a variety of cannabis plant known for its low THC levels) requires half as much land as cotton to produce a ton of finished textile and is –literally and metaphorically– changing the sector landscape. It can also grow quickly in different soils and temperatures, making it a flexible resource for farmers to leverage.



Hemp could also help with water conservation, as “it becomes one of the most drought-tolerant crops on the planet,” according to the National Hemp Association.

While CBD oil products are currently the biggest market for hemp growers in the United States (Future Farm reported \$90K per acre in revenue in 2017), more than 25,000 other products can be made from hemp, including food, fabrics, building materials, ethanol, and biodiesel.

↪ Consumer, wellness and beauty products

Companies in this sector focus on alternative forms of cannabis intake from cannabis oil, supplements, to cosmetics, and pet care products infused with cannabidiol (CBD), and even THC-infused soda.

Skincare in particular is a booming sector within cannabis products with the market now seeing beauty and personal care products infused with cannabis oil.

CBD oil in particular is attracting a lot of attention with proponents claiming it can offer relief from pain, anxiety, and depression, as well as it possessing anti-acne properties.

Using CBD oil is being explored by athletes and those looking to boost workout results, as some have claimed CBD oil can reduce post-exercise inflammation and promote muscle growth.

It's also making an appearance in beauty and makeup products including mascara and lip balms.

↪ Food and beverage

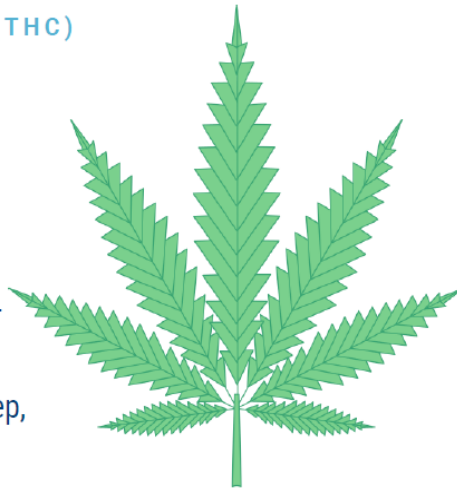
As alcohol consumption is declining globally, beer, wine, and spirits companies are looking to expand their offerings, including through cannabis-based beverages. UK-based spirits maker Diageo has been holding discussions with at least three Canadian cannabis producers about a possible deal for a pot-infused drink, according to a BNN Bloomberg TV report. And Constellation Brands recently announced a \$4B investment in cannabis company Canopy Growth, raising its stake from just below 10% to 38%.

Additionally, various cannabis-based drinks are looking to rival the appeal of beer with beer companies taking note and partnering with marijuana businesses to create special brews. For example, California-headquartered Lagunitas Brewing Company announced the launch of two psychoactive sparkling water products.

And in December 2018 Tilray began a partnership with the maker of Budweiser beer – Anheuser-Busch InBev – in order to develop cannabis-infused beverages.

TETRAHYDROCANNABINOL (THC)

- Main substance found in **marijuana**
- Psychoactive ingredient
- Euphoric effect – “high”
- Prohibited under federal law – varying state laws
- Use cases: nausea, better sleep, more appetite



CANNABIDIOL (CBD)

- Main substance found in **industrial hemp**
- Non-psychoactive ingredient
- No euphoric-causing effect
- If **not** extracted from marijuana plant, legal status in all 50 states
- Use cases: relaxation, wakefulness

Fig 1. What is cannabis? - CB Insights¹

→ Medical cannabis

Cannabis is revolutionizing the way several ailments are being treated worldwide, especially in the United States. Researchers are increasingly studying chemicals found within cannabis — cannabinoids — to discover new medical applications. CBD in particular has drawn the attention of several researchers, many of whom are studying its impact on epilepsy, neuropsychiatric disorders, cancer, anxiety, and other conditions.

Recently, the FDA approved the use of CBD to treat two types of epilepsy. Legalized medical marijuana is also helping supplant opioid treatment of chronic pain. In one medical marijuana study, 80% of users said the drug helped reduce chronic pain, and 50% of those had previously been treated with opioids.

In the UK, doctors were able to prescribe medical cannabis products to patients from November 1 under legislation. Restricted to specialist doctors - not a GP – there is now the option to prescribe cannabis-based products containing varying amounts of the compounds THC and CBD.

The change comes after a series of high-profile cases, including that of one 12-year-old boy who has severe epilepsy, whose conditions appeared to be helped by cannabis oil. In June 2017 his cannabis oil was seized at Heathrow airport when she attempted to bring it in into the UK from Canada. A wide-reaching media campaign raised and changed public opinion and led to the change in law.

Over 100 cannabinoids have been found within the plant, and as research continues, medical applications could become widespread.

References

1. J Lee (2019) 'The Cannabis Revolution' CB Insights [Webinar presentation] slide 13