Kanabo Group Plc

Driven by safety and precision

22 March 2021

Kanabo Group (KNB) has listed on LSE Main Market raising £6m in an oversubscribed fundraising via an RTO and is poised to step up execution of the growth strategy for its high quality metered-dose vaporiser, VapePod®, which is specifically developed to give precision dosing of proprietary cannabinoid extract formulations for health and wellness markets. The rationale is driven by developing and commercialising premium products defined by safety, quality and user experience set against a highly dynamic market.

The company has already achieved significant milestones and is focused on market-ready retail products via its cannabidiol (CBD) formulations used exclusively with VapePod®. The products are differentiated by the high quality of the formulations, triple testing via rigorous safety processes, and production in GMP pharma grade facilities. Unlike many vaporisers, VapePod® is a closed system, designed for exclusive use with the tamper proof cartridges, and uses no diluents or cutting agents, ensuring product purity that meets medical grade production standards. Kanabo is initially targeting a share of Europe's CBD market that analysts **estimated at $318m in 2018 and is forecast to rise over 500% to $1.7bn by 2023.**

Kanabo is also developing **VapePod® Medical** in conjunction with unlicensed medical cannabis extracts. While there are no legal or regulatory requirements for marketing medical cannabis products in the target European markets, the company is planning to run human trials on its high-quality medicinal products as it believes this will significantly differentiate its offering. The safety study and efficacy studies of the VapePod® Medical are designed to demonstrate the bioavailability of a cannabis extract-based vaporiser. Additionally, the company will test the efficacy of its medical formulation targeting insomnia and sleep disorders in partnership with one of the leading hospitals in Israel. The device is already registered as medical device for research purposes with the Israeli Ministry of Health and to our knowledge is on track to be the first metered dose vaporiser approved in Europe as a medical device for cannabis extracts. **A first to market positioning could provide a significant foothold in the burgeoning European medical cannabis market, projected to hit $3bn by 2025 led by Germany, at a CAGR of over 50% to $2bn by 2025 according to analysts.**

Kanabo has already signed its first UK medicinal cannabis distribution framework agreement with Astral Health Ltd, leveraging the parent company **LYPHE Group's** patient-access ecosystem that provides clinics, dispensing, import infrastructure and educational services. Astral Health is part of Drug Science's Project Twenty21 under which VapePod® medicinal cannabis formulas will be made available to patients, to generate revenues, data and raise brand awareness. The first product to be made available is to treat chronic pain via metered dosing with VapePod® Medical. KNB's agreement with PharmaCann Polska, will establish a customised production line for VapePod® cartridges, with initial capacity for c 36,000 cartridges/month allowing scale up to facilitate expansion.

Considerable momentum for medical cannabis: positive market dynamics include that the economic slowdown created by the pandemic can motivate governments to drive medical and recreational reform in Kanabo's key target markets. Commentators suggest that full cannabis legalisation can be a significant contributor to economic reconstruction. Certainly, the positive ruling from FCA also looks set to accelerate UK investment opportunities in the sector providing unprecedented access to capital, growth and supporting M&A prospects. Kanabo is the first medical cannabis company to IPO on the main LSE. The recent $7.2bn acquisition of cannabinoid therapeutics firm GW Pharma by Jazz Pharma validates the therapeutic potential and positions Kanabo Group to participate at the start of an exciting new era of opportunity. **UK medical cannabis market projections are for 6-fold growth to c £1bn by 2024.**

Company Data

EPIC	KNB
Price (last close)	25p
Market cap	£91m

Description

Kanabo Group (Kanabo) is developing a metered dose extract vaporiser platform for two distinct channels: the CBD (cannabidiol) retail market and for the medical cannabis market.

The products include a high specification metered dose vaporiser carrying Kanabo's 'VapePod®' trademark that is being developed for these two specific routes and in conjunction with its patented cannabinoid formulations.

You can watch a brief, 2 minutes video about why CEO Avihu Tamir founded Kanabo Research by clicking here

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Background

Spinnaker Opportunities Plc (Spinnaker) is an investment vehicle that listed on London Stock Exchange's Main Market in May 2017 raising gross proceeds of approximately £1.2m. Spinnaker has acquired Kanabo Research Ltd, listing on the LSE main market, via an all equity deal for a purchase price of £23m, plus a deferred consideration up to £2.5m, at a £1.9m valuation of Spinnaker. In line with the conditions of the proposed reverse takeover (RTO), Spinnaker has changed its name to Kanabo Group Plc (Kanabo). The current board of Spinnaker has stepped down, with the exception of its Chairman Andrew (Andy) Morrison, to be replaced by the Kanabo team (as listed in the biography section).

Kanabo was founded by Avihu Tamir in late 2016 and became operational in March 2017. It is primarily focused on developing a metered dose extract vaporiser platform for two distinct channels: the CBD (cannabidiol) retail market and for the medical cannabis market. The products include a high specification metered dose vaporiser carrying Kanabo's 'VapePod®' trademark that is being developed for these two specific routes and in conjunction with its patented cannabinoid formulations. Kanabo has **exclusively licensed** the technology behind the VapePod® from developer Jupiter Research LLC (Jupiter), in its primary markets of Europe and Israel.

In other words, Kanabo is developing the VapePod® device for use specifically and uniquely **in conjunction with its market-ready Retail CBD oils**. Secondly, it has a pipeline of Medical Cannabis products consisting of the VapePod® Medical, which it is developing with the target of achieving regulatory status as a medical device initially in Israel and Europe, to be used exclusively in conjunction with its prescription-only medically formulated cannabis oils - defined as Unlicensed Medical Cannabis oils.[1] The pipeline of prescription-only oils is being developed to alleviate the symptoms of central nervous system (CNS) disorders.

While clinical testing is not a requirement to commercialise Unlicensed Medical Cannabis in its chosen primary markets, Kanabo is still preparing to run human studies in Israel of the VapePod®® Medical and its Medical Cannabis oils to differentiate its products and to enable physicians to make informed decisions and to satisfy the requirements of a drug device combination under Israeli regulations. It had previously raised $3m via private funding, issuing convertible loan notes (now fully converted into equity) and shares, and this capital has been allocated to primarily cover development of proprietary oils and the VapePod® device.

[1] Defined in UK and Germany as medical cannabis that has not undergone the full clinical trials process and has not been tested for efficacy for the condition in question

Fundraise oversubscribed

The total net proceeds of the oversubscribed fundraise receivable by the Company was £5.3m (£6m gross). This far exceeds the original target of £2.4m net (£3m gross).

There are a total of 360,229,328 Ordinary Shares comprising existing 29,400,120 Ordinary Shares, 230,769,210 Consideration Shares, 92,307,693 Placing and Subscription Shares, 615,384 Fee Shares, 3,300,000 Conversion Shares, 250,000 Harpur Investor Shares, and 3,586,921 SOP Bonus Shares issued in connection with Admission.

The primary use of funds will be for short-term use to commercialise the VapePod® retail platform and CBD oils and for establishing a premium brand presence. Funding will also be used to continue developing the VapePod® Medical platform and to advance medical cannabis products in the early stage pipeline.

In view of the over-subscription compared to the minimum raise set out in the prospectus the company is reviewing the use of proceeds in order to accelerate delivery and value creation.

Safety and precision dosing for cannabinoids

Kanabo is poised to step up execution of its growth strategy for its high quality vaporisation devices and cannabinoid oils developed exclusively for consumption in conjunction with the VapePod® device. VapePod® is a high quality metered-dose vaporiser, specifically developed to provide precision dosing of Kanabo's proprietary cannabinoid extract formulations. The company is focused on two distinct markets:®

- **The retail market; the near-term commercial opportunity**
- **The medical, prescription-only market; commercialisation is subject to the successful completion of various development milestones**.

The company has already achieved significant milestones including satisfying all regulatory requirements in its primary markets of the UK and Germany for the Retail platform. It has registered VapePod®® Medical with the Israeli Ministry of Health and to our knowledge it is on track to be the first ever metered dose vaporiser approved in Europe as a medical device for delivery of cannabis extracts, having carried out preliminary studies showing device functionality and consistency of its first Medical Cannabis extract Nabinnol.

Kanabo is conducting a Pilot of its Retail CBD products in the initial European markets of UK and Germany in order to improve its supply chain and to help evaluate consumer demand and other KPIs, to enable accelerated revenue growth of the Retail CBD products in Stage two of its strategy. The duration of the Pilot is expected to be over six months following listing. VapePod® is regulated specifically for the retail market to be used exclusively in conjunction with Kanabo's THC-free, proprietary CBD oils.

Regulatory requirements for VapePod® Medical Products

Product	UK	Germany
VapePod®	Vaporiser/fulfils GPSR* Directive as safe for public use	Utensil/complies with German Product Safety Act/German Food and Feed Code
Retail CBD formulations	Products adhere to labelling requirements and THC limits	Products adhere to labelling requirements and THC limits

*Source: Kanabo/*GPSR General Product Safety Regulations Directive 2001/95/EC*

The objectives of the study are to provide medical validation[2] of the cannabis extract and to provide safety and bioavailability data on VapePod® Medical so it can be registered as a medical device for commercial launch, initially in Israel in order to meet the demand for consistency of dosing, optimal bioavailability and safety in delivering medical cannabis oil.

Kanabo is also preparing to complete a CE Mark submission for VapePod® Medical, with a view to gaining access to target markets of Germany and UK. In Europe, CE Mark Certification is validation of device safety and compliance with ISO standards of manufacturing and it can be registered separately from the therapeutic substance being delivered: in this case medical cannabis oil.

Unlicensed Medical Cannabis markets are still evolving, and medical cannabis programs include cannabis flowers or extracts, with inhaling dried flower already a popular means of ingestion in Germany, Israel, and UK due to the harms of smoking. There have been recent concerns on safety of vaporisation 'vaping' which we shall discuss in further detail.

Kanabo's products are subject to the highest quality assurance checks, the device is a closed system and the Pods are tamper-proof and non-refillable, creating a safe ecosystem where no other vape products can be use with the device.

Products are developed to satisfy the rigorous safety requirements in primary markets of Germany and UK.

Defining CBD and medicinal cannabis

Europe has some way to go to catch up with the North American medical cannabis culture, notably in education and greater understanding of its clinical benefits and indeed its possible side effects. What is certainly true is that the industry is moving towards greater formalisation. In this area, Germany is ahead of a UK market that is still in its infancy, although which is predicted by industry analysts to rise rapidly in the next 4-5 years, having only recently legalised medical cannabis in November 2018.

The projected size and rate of growth of the European medical cannabis market suggest that it will surpass the size of the North American markets (estimates of European market size are as high as €120 billion by 2025 in a fully legalised scenario) predicated on favourable policy and infrastructure development but also notably on the expansion and dissemination of medical knowledge and evidence.

Israel is a pioneer in medical cannabis research: notably that carried out by Raphael Mechoulam in the 1960's into the therapeutic and chemical properties of cannabis as well as its interaction with the body's endocannabinoid system. Now, Israel is decades ahead of Europe and even the US since research into the plant's properties has not been hindered to the same extent by prohibition.

The principal chemical properties of cannabis extend to a range of over 100 compounds known as cannabinoids and the subject of extensive research into the interactions and therapeutic benefits of these compounds known as the entourage effect. However, the best-known cannabinoids are:

- **THC** Δ9- tetrahydrocannabinol or dronabinol, which is the major psychoactive substance in cannabis as it is stimulating and promotes euphoria; and
- **CBD** or cannabidiol, is the most abundant of the cannabinoids and known for its sedative and calming effects.

[2] Medical validation: establishing the suitability of a mechanism or system to consistently perform a particular task or to produce a product with predetermined specifications and quality attributes, in the context of medical applications.

CBD oil, which is extracted from marijuana leaves and buds, or from the hemp plant a close relative of cannabis, generally contains low levels of THC[3]. CBD is not a controlled substance in UK or Germany and is widely used OTC for wellness uses to alleviate the symptoms of a growing range of conditions including epilepsy, anxiety, and for sedation and pain relief.

The therapeutic properties of CBD were highlighted by the US FDA approval of GW Pharma's licensed medicine Epidiolex, a purified cannabidiol, for childhood epilepsy in 2018 and which in September 2019 was granted marketing approval in Europe as Epidyolex. However, it is important to note that no medical claims may be made when marketing and labelling CBD other than Epidiolex.

It is a relatively unregulated industry, and the quality and concentration of cannabinoids has been shown to vary very widely, which runs contrary to the medical community's requirement for consistency.

WHO regards CBD as a safe substance, and while it is recognised that evidence is needed to substantiate medical claims, it has garnered huge popularity on the basis of anecdotal evidence of its wellness benefits - provided the THC limits are respected.

A pioneer in the CBD market is **Charlotte's Web (CWB)** in Colorado, US that built its brand on the publicity and success it gained by famously helping treat one of the first child sufferers of paediatric epilepsy. CWB had FY19 revenues of $94m and sells a range of CBD oil, edibles for human and pet consumption, oil capsules as well as topical salves, lotions and isolate that are produced via pharma standard certified Good Manufacturing Practice (cGMP) standards and with quality assured products and high concentrations of CBD.

Cannabinoids interact with the human immune and nervous system by means of a complex biological system called the human endocannabinoid system (ECS). The versatility of the ECS means that it is a very promising therapeutic target for a whole range of conditions. Formal research supports the scientific and biological rationale for using cannabis as a medicine.

Medical cannabis

'Medical cannabis' is the term commonly used to describe unlicensed medical cannabis derived from the natural plant, obtained on prescription from a specialist physician, and comes in many forms notably dried, capsule or oil.

There is a distinction to be made between unlicensed forms that have not undergone full clinical testing and achieved formal market approval, and licensed pharmaceutical cannabis medicines which are patented and approved for specific indications. Clearly, the cost of developing a licensed medicine can surpass millions of dollars and this is translated into an annual cost of over $32,000 for Epidiolex.

Germany's medical cannabis market is set to grow exponentially

Medical Cannabis (in its unlicensed form) was legalised in Germany in March 2017 and since then the number of patients has grown from around 1,000 to over 60,000 in June 2019 according to BfArM. The supply infrastructure is still evolving in order to meet projected demand that is estimated will exceed 1 million patients by 2025.

Since Germany is Europe's largest economy and one of the first to legalise medical cannabis, it is also predicted to be its largest Medical Cannabis market with some estimates of a market value of over $2bn[4] by 2025 a CAGR of over 50%. For this reason, Kanabo selected it as a primary market.

A number of factors are expected to help drive growth and have contributed to increasing optimism in forecasting the market growth projections along with widening of access, evidence, and reimbursement to

[3] CBD oil at THC<0.2% is legal in UK and Germany
[4] Brightfield Group, European Cannabis 2020

expand the patient population. In Germany medical cannabis is prescribed based on being a treatment of last resort – it is most frequently prescribed to treat symptoms rather than diseases or conditions with the following being the most common according to data from BfArM: Pain, Spasticity and Anorexia.

An insufficient quantity of efficacy and safety data is seen as one of the major hurdles preventing physicians from prescribing it. The most popular form of cannabis is dried flower which is mostly smoked or vaporised. Vaporisation is a highly efficacious form of ingestion providing up to 3 times efficacy of placebo seen in some studies.[5] It is potentially less harmful than smoking which is not prescribed due to the harms of combustion or toxicity.

Kanabo's prospective safety and bioavailability study with VapePod® Medical products can help provide greater certainty in these respects and potentially help overcome one of the greatest barriers to prescribing unlicensed medical cannabis.

UK

The UK followed the lead of Canada and other European countries in legalising medical cannabis as a treatment for certain conditions in November 2018. This followed pressure from patient and carer groups including from high profile cases of children with severe epilepsy who suffered a return in seizures after their medication was confiscated.

In the UK, medical cannabis is defined as '**any sort of cannabis-based medicine used to relieve symptoms.' Unlicensed Medical Cannabis must be prescribed by a physician named on the** Specialist Register of the General Medical Council **and is currently restricted to named patients only.**

For now, the number of conditions or symptoms that can be treated with unlicensed medical cannabis are limited to those most researched and only then after first line medicines have failed. These are listed as: spasticity in Multiple Sclerosis; rare forms of childhood epilepsy; and chemotherapy induced nausea and vomiting. Recommendations for further research are likely to expand the number of treatable conditions and chronic pain targeted in Kanabo's pipeline is a notable target for further research. In addition to the 'legitimate' approved uses, a whole spectrum of other applications across CNS, mood, pain, palliative care, and gastro-intestinal diseases have been studied or applied providing extensive anecdotal evidence of the benefits of medical cannabis.

Currently, in UK only oils or capsules are formally defined so far, although the higher bioavailability and the potential for precision in dosage of vaporised medical cannabis means that further evidence can support its adoption in future.

NHS states that expansion of the number of conditions and type of symptoms and extension beyond specialist prescribers depends on provision of '*clear published evidence of benefit*.' **Kanabo is focusing on developing its medical cannabis formulations containing a mix of cannabinoids for CNS disorders including Insomnia, PTSD and Chronic Pain (for which cannabis is already prescribed) as an alternative or adjunct to standard treatments.**

In summary, the medical cannabis market diverges sharply between licensed medicines and a specialist prescription-based market.

In Israel, UK and Germany, medical cannabis programs authorise the use of cannabis flower and extracts, but smoking is not a prescribed administration method due to the harms of tobacco inhalation and combustion of raw flower material. Further clinical evidence is needed to rule out safety concerns and to support efficacy claims including for vaporisation.

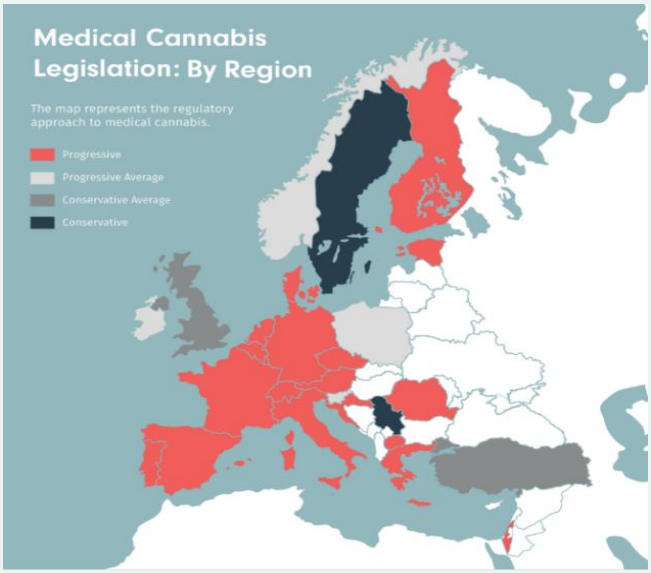
[5] Andreae et al. (2015) meta-analysis of data from 178 patients with neuropathic pain in five randomised controlled trials of inhaled, vaporised herbal cannabis

Short term target: high growth European CBD markets

Given this backdrop, Kanabo's strategy is to tie in with **the unmet need and strong underlying market growth trends**. Initially it aims to build a brand based on premium full spectrum CBD oils for the Retail Market in conjunction with the VapePod®®, targeting high quality, superior concentration of CBD and consistent formulation.

It is also based on building a superior user experience since the CBD oils are free from additives and are based on a proprietary diluent, designed to improve potency, aiming to limit the number of doses per day, which can help minimise throat irritation. The device provides metered dosing enabling consumers to precisely measure their intake of CBD.

The acceptance of Medical Cannabis in Europe



Source: industry journal

The company is also running clinical testing and validation of the VapePod® Medical platform which is being developed specifically as a medical device to enable consistent dosing enabling high bioavailability by means of inhalation without the harmful effects of smoking. Successful outcomes can place it as the first CE Mark certified Medical Device for vaporising cannabis extracts, thus providing an opportunity for the company to establish a strong foothold as well as brand recognition.

These factors set it as a premium and differentiated player in these fast-evolving markets. Apart from setting a high-quality standard, being first to market with an extract based medical device, the rationale for developing the Medical and retail products for European markets is also supported by the large projected growth and eventual scale of these markets set to hit over $3bn by 2025.[6]

Effect of the pandemic on cannabis markets

The pandemic appears to have created a number of trends mostly supporting the cannabis markets and emphasising its status as an essential medical product:

- Covid-19 has caused a mixed impact with some commentators suggesting that overall consumption rose, including recreational use, although at least in part driven by a move to consumption from black market sources. Aurora Cannabis/ACB, key operator in European medicinal cannabis, remarked in its Q320 report to September (revenues flat year on year) that while the sale and production of cannabis is regarded as essential in both Europe and Canada,

[6] Brightfield Group, European Cannabis 2020

it also reports that pandemic is clouding future visibility although clearly this situation continues to evolve as earnings are reported.

- While lockdowns meant that retail sales of CBD declined, the market moved to direct online channels and the company is assuming that this trend will continue during 2021 and is well equipped to meet demand via these channels.
- The economic slowdown may give additional motivation to governments to advance medical and recreational reform. For example, the UK black-market is worth over £2.5bn and this is a source of potential income that the Treasury could tap into by legalising recreational channels or by driving greater access to medicinal cannabis.

Kanabo has rigorous safety standards

Kanabo has been focused since inception on attaining the highest standards of quality, supply chain visibility, the company and its product development strategy is focused on safety, efficacy and quality and it is a **highly regulated medical cannabis company**. Kanabo's quality and efficacy standards require that no synthetic agents or emulsifiers be added to its cannabis extracts and terpene formulations, and the company adheres to pharma industry's stringent GMP standards in the manufacturing of its products.

Kanabo's medical grade VapePod®® device is produced in a facility that has GMP and ISO134885 medical certification and has undergone rigorous testing for safety and performance reliability with compliance standards equivalent to CE Mark regulatory requirements. The device has also been independently tested to guarantee that there are no heavy metal residues, ensuring the consistency of product composition pre and post heating in the device.

Targeted Formulations

Kanabo's formulations do not include any artificial carrier oils or diluents. All of the company's products are made with 100% cannabis derivatives and only include Cannabinoids, naturally occurring Terpenes, and Flavonoids; there are absolutely no mineral oils added. Additionally, Kanabo's products go through preclinical and clinical testing at the company's R&D centre in Israel to ensure safety and efficacy. By offering a high potency product, in principle only a small amount of the formulation is needed to achieve the desired effect.

The VapePod®® Device

Kanabo's VapePod®® vaporiser, with unique metered-dosing capabilities, is as far as we are aware, the first cannabis vaporiser certified as a medical device in the world. The VapePod®® device is produced in a GMP facility that meets similar pharmaceutical grade safety and manufacturing standards. The cartridges are regularly tested for heavy metals and degradation to ensure all hardware meets production and safety standards. It is designed to use low temperatures that prevent the formulations from ever being combusted.

In 2018, Kanabo's VapePod®® device was approved by the **Israeli Ministry of Health** for research use in clinical trials to continue efficacy and safety testing. The device is currently undergoing rigorous testing for medical device registration in the EU.

All Kanabo products are triple tested; every formulation batch is tested three times to ensure safety, efficacy, and quality before it is approved for release to the market.

1. After the extraction process is complete, a full panel compliance test for potency, pesticides, and heavy metals is conducted by independent third-party laboratories. This ensures that Kanabo remains compliant with relevant regulations regarding THC, THCA and CBN and other cannabinoid and terpene levels. View a sample Certificate of Analysis.

2. Once the formulation process is complete, a detailed full panel test is conducted by independent partners of Kanabo on the vapour produced by the device to ensure device integrity and performance.

3. At the packaging stage, a third and final test is conducted for quality and consistency of the final product as well as full panels tests on potency, pesticides, and heavy metals by independent third-party laboratories.

Kanabo believes that its performance and quality analyses are more stringent compared to those typically conducted by the industry for cannabis vaporiser products. Analysis is typically performed only of the concentrated Cannabis oil prior to filling the cartridge. Kanabo also analyses the vapour (aerosol) after vaporisation to evaluate the safety and the consistency of the inhaled product.

Kanabo tests that :

1. The formulations are stable after being heated during the vaporization process.

2. The composition found in the cannabis extract is exactly the same as the vapour (aerosol) after inhalation. The vapour which exits from the vaporiser is caught in a special vessel and analysed via gold standard industry methodologies (GC-MS and HPLC), for each formulation variant. This is done to ensure that all the materials are safe with no other unexpected ingredients.

In our view Kanabo has set up rigorous processes and standards to ensure the safety, quality and consistency of its products.

First focus on the CBD market

As we have said, Kanabo is setting high standards of quality and safety: the VapePod® platforms for both the medical and retail markets are being differentiated and defined by the quality of the formulations, as well as the features of the hardware. The CBD markets are burgeoning: Europe's CBD market was estimated at $318m in 2018[7] and is tipped to rise to nearly $1.7bn by 2023.

This presents a CAGR of over 40%, or an absolute rise of over 500%.

The huge quality differential in products on sale owing to a lack of regulation and labelling means that CBD content can vary widely, for example, many CBD oils for vaporisation are e-liquids which tend to contain a synthetic carrier plus CBD isolate, and are generally labelled between 1-20% CBD per volume. The synthetic carriers often used in vaping formulations have been associated with toxicity including in recent analyses of lung injury causes.

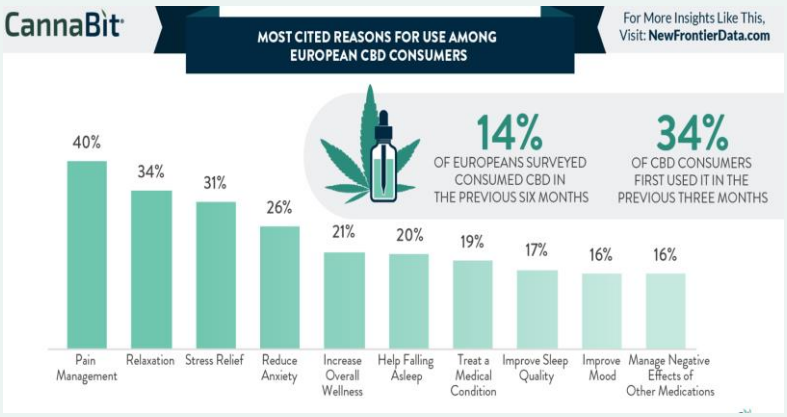
Kanabo's Retail Oils are CBD-rich with less than 1mg THC and CBD-per cartridge in compliance with prevailing ruling in European markets. **Furthermore, the CBD oils are being tested and certified as free of toxins by a third-party GMP laboratory** - on this basis are classed as THC free for UK and Germany.

Since Kanabo's formulas are derived from a full spectrum hemp oil , they contain a range of cannabinoids and terpenes, termed broad spectrum oils. These are believed to be responsible for the synergistic pharmacological benefit known as the entourage effect. Kanabo's CBD formulations contain over 50% CBD and more than 70% of total Cannabinoids.

They are positioned at the high-quality end of the CBD products market and differentiated from even the most highly concentrated products, backed by rigorous supply chain oversight.

[7] Brightfield, European CBD & Cannabis Market 2019 Report

European CBD Survey – most cited uses



Source: New Frontier Data/3,100 respondents in 17 countries

In the CBD market a key trend is the drive for quality and better labelling to rule out the presence of controlled substances even contaminants so Kanabo is well positioned to meet this need through its thorough third-party quality testing. The Centre for Medicinal Cannabis carried out a survey in June 2019 which revealed startling results. In a set of samples tested:

- 38% of the products were within 10% of the advertised CBD content
- 38% had less than 50% of the advertised CBD content
- one product had zero CBD content a high street pharmacy product retailing for £90 (30ml)
- 45% of the selected products had measurable levels of THC (mean content 0.04%) and were technically above legal limits.

Added to this, the high specification VapePod® device which is a sleek and discreet design with metered dosing sets it apart from many of its peers. Kanabo has developed balanced extract formulations in single use, pre-filled, tamper proof child safe cartridges for use with the VapePod® for Retail and Medical markets. The VapePod® cartridges were uniquely designed to fit the VapePod®, and these two units are mutually exclusive.

VapePod® device and CBD extracts range

Source: Kanabo

Jointly, Kanabo and Jupiter Research adapted and developed the technology specifically to enable metered dosing on the VapePod® platform. Kanabo is the owner of the VapePod® trademark and currently holds exclusive licenses to develop and commercialise this for Europe and Israel.

Jupiter Research (based in Arizona, US) was acquired for $210m by cannabis technology company TILT Holdings (TILT) in January 2019.

VapePod® advantages

VapePod®	Standard vaporiser devices
Ceramic core heating technology non-combustive	Wick and coil heating element
Compatible with oils of varying viscosity – no harmful additives or diluents required	Often use toxic carriers such as PG/VG and MCT
Effective, consistent, and accurate metered dosing to enable optimal yield per inhalation in combination with CBD rich formulations	Varied quality – lack of metered dosing devices and no medical devices yet approved for cannabis extracts
Tamperproof/Child-safe system	Refillable

Source: analyst/Kanabo

Retail platform: the VapePod® is being developed and regulated for use as a consumer device exclusively in conjunction with customised cartridges of the CBD Extract formulations following a razor/razor blade model. It has achieved all the safety and necessary market regulation to satisfy the requirements of agencies in its two primary markets, UK and German and both the oils and hardware are market ready.

These are the two initial markets for the Retail CBD Products since in Israel, CBD extract is classed as a medical product and cannot be sold over the counter (OTC). While in UK and Germany, although no wellness or medical claims can be made for CBD – its popularity is based on an overwhelming amount of perceived and anecdotal evidence of its benefits as well as clinical data on Epidiolex.

The Retail Products are targeted at the growing CBD market and as they **contain less than 1mg THC per cartridge, they are compliant with strict regulatory requirements of multiple markets and regulatory environments.** Yet Kanabo has adopted a market-by-market approach since vaporisation regulations do differ within Europe and has launched its pilot program in the most established / largest markets.

To date, Kanabo has developed the following three CBD Oils, with the following brand names:

Reload, Relax and Repair.

Kanabo branding will focus on user experience, consistency and the high quality of the formulations, factors which will be tested during the Pilot phase. It aims to create a premium high margin product range.

Medical Products: the fast-changing regulatory climate on medical cannabis means that European countries are moving into line with more progressive nations such as Canada. Kanabo is targeting the Medical products for two large and promising markets; Germany is one of most progressive nations and projected to be the largest in Europe and UK, where the market more recently opened. Kanabo will develop VapePod® Medical in its home market of Israel which is a pioneer in medical cannabis research and innovation.

A common factor is the strong patient demand and a need for greater dosing consistency and clinical evidence. Therefore, this supports the development of Kanabo's medically validated platform.

Achieving the CE Mark will differentiate the VapePod® Medical from other vaporisers, particularly if it hits the goal of being the first medical device on the market classed as a metered dose vaporiser for cannabis extracts, along with clinical evidence to support both the device and Medical Cannabis Oils.

This could enable Kanabo to attain a strong footing, provided it achieves physician endorsement.

Validating consistency and safety

In early 2018, Kanabo conducted small, early-stage studies on VapePod® Medical having obtained registration as a medical device in Israel for research use. The objectives of the studies were to demonstrate consistent delivery of active ingredients with a view to establishing the capacity to create accurate and consistent dose control.

VapePod® Medical is being developed to help inform patients and physicians in order to achieve consistent and measured dosing designed to ensure an optimal yield per inhalation. This will be specifically validated in the forthcoming human study initially in Israel to test safety, bioavailability, and reliability.

If outcomes of the study are achieved, VapePod® Medical will be on track to be the first medical device for CE Mark territories, specifically for vaporising medical cannabis extracts.

The ability to calibrate dosing is potentially a key differentiator for VapePod® system particularly given the demand for precision in the evolving medical cannabis markets and the drive for metered dosing devices for vaporisation.

Kanabo has focused its R&D efforts on the development of formulations of Medicinal Cannabis oils with THC to alleviate Central Nervous System (CNS) disorders. Nabinnol, the first formulation developed by Kanabo, targets insomnia.

In June 2018, Kanabo completed a preliminary study on animal subjects to test the safety and efficacy of Nabinnol. The results of the preliminary study demonstrated increased sleep maintenance and duration of sleep in animal subjects.

In addition, an *in vitro* preclinical study was carried out using the VapePod® Medical which demonstrated that the device is able to deliver a consistent dose that does not decrease throughout the life of the cartridge and the device.

Next steps for the Medical platform

The planned next stages of development will comprise:

- A VapePod® Medical safety and bioavailability study – targeted for completion in Q3,2021
- A Safety and Efficacy Study of Nabinnol in conjunction with the VapePod® Medical targeted for completion in H2,2022

Both studies will be conducted in Israel and Kanabo will draw on the expertise of its GLP certified CRO and R&D Advisors. Kanabo requires clearance from the IMCA in the Israeli Ministry of Health following submission of the study protocol and green light from the MCU who regulates cannabis in Israel.

The objective is to obtain Medical Validation of Nabinnol in Israel initially where the Ministry of Health requires VapePod® to be tested as a reliable metered dose delivery system in conjunction with the Medical Cannabis Extract in order to be registered as a medical device for commercialisation in Israel.

The Open-Label Study will Evaluate the 'Pharmacokinetics, Safety and Tolerability of Cannabis Extract Administered by Inhalation Using the VapePod® Device in Healthy Adult Volunteers' and will be conducted at the Shiba Medical Center, Israel's largest Hospital. We emphasize that these are to be small scale studies and the likely duration being 8-10 months.

CE Mark opens the door to European medical markets

In order to distribute and sell the VapePod® Medical in the European Union as a medical device, it is necessary to obtain a CE Mark for the device.

The CE Mark confirms that the product complies with the relevant EU standards and requirements in relation to quality, safety, and efficacy. Kanabo is targeting attaining CE Mark by the end of 2021. If successfully granted, CE Mark provides Kanabo with the basis for marketing VapePod® Medical right across the Europe, particularly if reimbursement of extracts vaporisation is achieved.

As noted previously, the Safety Study and Efficacy studies of the VapePod® and Nabinnol are not a legal or regulatory requirement for the primary markets (UK and Germany) but are planned to differentiate the products from other unlicensed medical cannabis products.

Evolution of medicinal cannabis development routes

In the future, Kanabo has **the option** to carry out further formal clinical studies with Nabinnol in line with the evolving markets. The rationale is for providing clinical data to support prescribing Medical cannabis in sleep disorders.

Kanabo is planning to conduct safety and efficacy studies on the next products in the Medical Cannabis pipeline – dependent on successful outcomes from the initial studies of Nabinnol and VapePod® Medical:

- Pain: one of the most commonly reported reasons patients use cannabis for medical purposes in the United States is to treat chronic pain that is not caused by cancer.
- PTSD: the rationale for Kanabo's product is to reduce use of antidepressants and potentially as adjunct to psychotherapy.

Supply chain and distribution in place

Kanabo has already established its supply chain including relationships and agreements with distributors, manufacturers, and cultivators necessary to initiate the Pilot stage of its strategy and has already recorded initial sales for its Retail CBD Products in the primary markets.

As such, it is operating a staged scale up enabling it to assess and evaluate its products and supply chain with a view to building up its capabilities once the Pilot has been completed successfully.

Key performance indicators for Pilot

Consumer Preferences	• Testing response to branding labelling, promotional information, sales initiatives
Sales and Distribution Channels	• Measuring demand in primary markets and adjusting focus and choice of channels eg physical vs online
Distributors	• Choice of new distributors is dependent on market feedback
Supply Chain	• Assessment of volumes, capacity, timescales
Quality control and compliance with protocols	• Regular testing to ensure compliance with quality standards and controls • Kanabo has appointed third party QA in UK and Germany • Vital for establishing high quality premium branding

Source: Kanabo/analyst

Kanabo has selected UK-based wholesaler **KAB Global** as its supplier of high-quality CBD oil.

- In UK – KAB Global will prepare and fill and the pods to send to distributors CannaCares, Elite Healthcare and CiiTECH – using e-commerce platforms initially.
- In Germany – **Four 20 Pharma** is Kanabo's sole distributor for the Pilot and is responsible for production and distribution of its CBD formulations. **It works in strict compliance with EU GMP and GDP principles**. In addition, Simply Green Trade that are focusing on wellness and online stores.

The VapePod® will be supplied to Kanabo's distributors directly from the manufacturer.

Initially, Kanabo will not be involved in manufacturing, producing, or distributing its products, or undertaking cultivation of raw biomass; these activities will be carried out by third parties holding the relevant, licences, approvals and consents. This strategy enables it to focus on product development and brand building.

Distribution model through partners to rapidly achieve scale

After completing the Pilot, Kanabo targets a rapid expansion of its distribution capacity through signing additional distributors in UK and Germany. Clearly it will be in a position to pinpoint the most effective channels and to iron out any supply chain issues in response to the KPIs.

The company has set out a broad list of targets to be achieved once the Pilot is complete during Stage 2 of its expansion strategy by developing additional relationships with distributors and enlarging its team of regional representatives. It will also employ efforts to increase brand awareness including by advertising and education and building a dedicated online presence.

For example, established brands have achieved endorsement from well-known figures, consumers as well as health practitioners. During this stage of the strategy Kanabo will also increase capacity in its supply chain, potentially to maximise penetration in initial markets, **and bearing in mind that it has the option to diversify into other European markets.**

Kanabo anticipates that it will sign up a mix of distributors to meet its strategy in a staged approach targeting 3 additional distributors of different sizes in each 6 months over 24 months in the period following completion of the Pilot and stepping up the rate of additions in Phase 2.

The plan is to appoint a mix of distributors that can enable Kanabo to engage with more than 1 million additional potential customers per annum in the European CBD markets over the medium term. Bearing in mind that Kanabo and its advisers already have significant networks and knowledge of these markets, it is well-positioned to accomplish this strategy.

Longer term plans

In the future, assuming that Kanabo is able to hit the development milestones it targets, the medical platform will be commercialised via prescription-only channels using specialist distributors. Kanabo might opt to expand its relationship with Four 20 Pharma which owns a GMP production facility in the EU and distributes Medicinal Cannabis products in Germany.

At present Kanabo is focused on sourcing raw material from third parties and has no cultivation assets and it relies on third party sourcing.

Multiple drivers behind commercial opportunities

Europe's CBD market value was estimated at $318m in 2018[8] and is tipped to rise to nearly $1.7bn by 2023. **This presents a CAGR of over 40%, or an absolute rise of over 500%.**

As stated, vaporisation is well established in Kanabo's focus markets and in our view, the focus on a quality device, the absence of harmful toxins in tandem with the premium quality of the CBD oils can help differentiate its products particularly in view of current concerns.

Market growth estimates vary with others even higher than those in the Brightfield Group report cited above, but still suggest that European CBD markets will very quickly exceed North America. Some parallels can be made with the OTC vitamins markets where user and anecdotal experience is a primary growth driver.

For example, estimates arising from market research[9] commissioned by the Centre for Medicinal Cannabis (CMC) suggest that the UK CBD market alone is on track to expand to around £1bn by 2025 and that the current size exceeds the estimated £260m value of the Vitamin C and Vitamin D markets.

In Europe, tinctures remain the largest market segment, followed by topicals, vape oil/cartridges and capsules.

Vaporisation cartridges represent a strong growth category and Kanabo is carving out a position as a high quality brand, differentiated from the CBD vape products that contain diluents and additives, and have a low concentration of cannabinoids. Kanabo focuses on broad spectrum oils, excluding synthetic and harmful additives, which contain high CBD content via a medical grade delivery system offering controlled dosing. In this respect, its products are differentiated from the broad majority of CBD products.

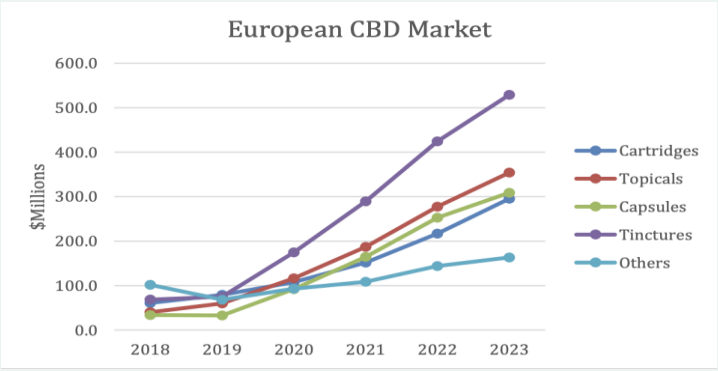
Premium CBD comparators

Company	Key features	Vaporiser
Kanabo	Full spectrum oils, no diluents, or additives	Proprietary device VapePod®
Highkind	Full spectrum oils, no MCT, PG, or VG	Sold separately
CalyFX	Full spectrum oils, no MCT, PG, or VG	Sold separately
MediPen	Proprietary cannabinoids, uses Pharma grade MCT	Proprietary device MediPen

Source: company websites/Kanabo

In our view, Kanabo's strategy positions it to garner market share to meet demand for highly regulated and high quality products particularly in view of the conclusions from analysis of serious lung injury outbreak in US in 2019 showing that additives are a primary cause of harm. The following chart illustrates predicted categories prior to escalation of concerns.

Predicted categories in CBD – sales of vape cartridges set to triple by 2023



Source: Brightfield Group

[8] Brightfield Group, European CBD & Cannabis Market 2019 Report
[9] CBD in the UK: Executive Summary, June 2019

Estimates suggest c. 10% of adults in UK have used CBD

Data derived from consumer surveys conducted in May and June 2019 by Dynata and YouGov indicate that **between 8- 11% of UK adults have tried CBD**. Interest in the health and wellbeing potential of CBD is driving consumer curiosity in the UK, and major charities have started publishing educational output in response to this demand.

As we have said, the driver is for quality and clearer labelling to rule out the presence of controlled substances even contaminants. Kanabo is addressing the requirement for quality, safety and consistency.

European strategy focused on medical precision

The UK is already a well-established vaporiser market, e-cigarettes are endorsed by Public Heath England and by the Royal College of Physicians for smoking cessation, and confirmation of the lower risk profile has helped drive uptake of vaping. Despite concerns in the US, the market has garnered great popularity certainly for smoking cessation.

The CBD vaporisation market rides on the coat tails of this trend. Oil categories include flower, concentrates and flowable oils. The most established vaporiser brands in the North American market include PAX Labs and the Jupiter ranges and the Pax ERA vape pen for flowable oil is established as an industry standard.

Earlier stage companies developing metered dose cannabinoid vaporisers in North American market are focusing on precision dosing and trackable data, synched with mobile apps. Gofire is partnering with Colorado State University in a research project using the device to measure medical cannabis intake scientifically.

In Europe, the only other approved medical devices (to our knowledge) for medical cannabis vaporisation are Israel's Syqe Inhaler that is being marketed by Teva Pharmaceuticals and is designed to vaporise micro-doses of powdered cannabis flower. It was developed to treat chronic pain. Storz & Bickel, perhaps the most well established medical device vaporiser company in Europe, has a range which carries CE Mark and includes a table top device the Volcano Medic and a portable battery powered cannabinoid inhaler the Mighty Medic.

Key participants in the metered dose vaporiser market

Company	Metered Dosing	Extract Based	Medical Device Israel	Canada Medical	EU Medical Cert	Price
VapePod® – Kanabo	✓	✓	✓	X	pending	$65
Dosist	✓	✓	x	X	x	$30
Gofire	✓	✓	x	X	x	$360
Mighty Medic * Storz & Bickel	pending	✓	✓	✓	✓	$360
Syqe	✓	✓	✓	X	pending	$545
INDOSE Rx	✓	✓	x	X	pending	$70
PAX – Era	✓	✓	x	X	x	$70
Airgraft	✓	✓	x	X	x	$98
Resolve	✓	✓	x	✓	x	N/A

*Source: analyst/company websites/Kanabo * extract and flowers*

The company was acquired by Canopy Growth in 2018 for **€145m** (no revenue data available). VapePod® Medical is differentiated from the S&B range that uses dried flower or cannabinoids dissolved in an alcohol carrier while VapePod® is being developed for formulated medical cannabis extracts.

Kanabo is following the same rationale as Syqe Medical and S&B, although this is not like-for-like as Kanabo is developing a device specifically for cannabis extracts rather than raw flower, by aiming to eliminate uncertainty surrounding dosage administration and alleviating physician concerns with regards to adverse events and psycho active properties.

The future of vaping

Notwithstanding the concerns around EVALI, vaping has gained great popularity as a means of ingesting cannabis. In fact, in Colorado, the first state to allow recreational cannabis sales, vape pens reached around 19% of the market in 2018, having tripled from 6% at the start of 2017, according to cannabis data firm Headset.

The conclusions should also be weighed up against the harms of smoking. Earlier analyst estimates were that globally adult vaporiser use could reach almost 55 million users by 2021, with Europe accounting for more than 30% of the market share by 2023.

With investigations into the vaping injuries concluded this will likely provide the information needed to create greater regulation around the industry and a drive for greater quality. Kanabo is well-positioned in our view having built high standards of quality and transparency.

While the Company targets Germany and UK initially, there is potential to launch more widely into Europe in the future.

In our view, the Pilot provides the company scope to adjust its strategy nimbly prior to scale up using market intelligence, and there is scope even at conservative estimates, to accelerate revenues in the short term in a huge potential market.

In addition to the engagement and appointment of individual distributors, Kanabo will leverage its team of regional representatives, two in each primary market, to oversee brand campaigns and boost awareness necessary in this competitive market.

The tiered approach means that it can potentially reach out to a large customer base effectively.

Meeting the demands of a data driven medical market

Some estimates point to a European medical cannabis market-size in excess of $3bn[10] by 2024 and is predicted to become the world's largest legal market over the next five years led by Germany.

Israel is a pioneer in medical cannabis R&D. Despite this advantage, the Israeli medical market remains relatively small; there are an approximate 40,000 annual prescriptions for medical cannabis for a range of indications in a population of 8 million people and this is provided by medical insurance at a rate of around 370 NIS or £86 per month.

Israel provides the initial testbed market and proof of concept for the VapePod® Medical platform where many patients are advised to smoke their prescription; more research is needed but some studies suggest that inhalation provides up to 3 x bioavailability than oral consumption.[11] The market launch strategy will be more clearly defined once R&D has progressed.

Progress in the expansion of the Unlicensed Medical Cannabis market in the UK remains relatively slow, partly because of lack of education and evidence; this supports the rationale for Kanabo's business strategy

[10] Brightfield Group
[11] Franson K, Skaggs School of pharmacy UC San Diego

and will continue to evolve during the launch period and consolidation of the Retail CBD products judging by the policies and initiatives in place and the recent U-turn by NICE on Sativex and Epidyolex.

Germany leads European Medical Cannabis markets

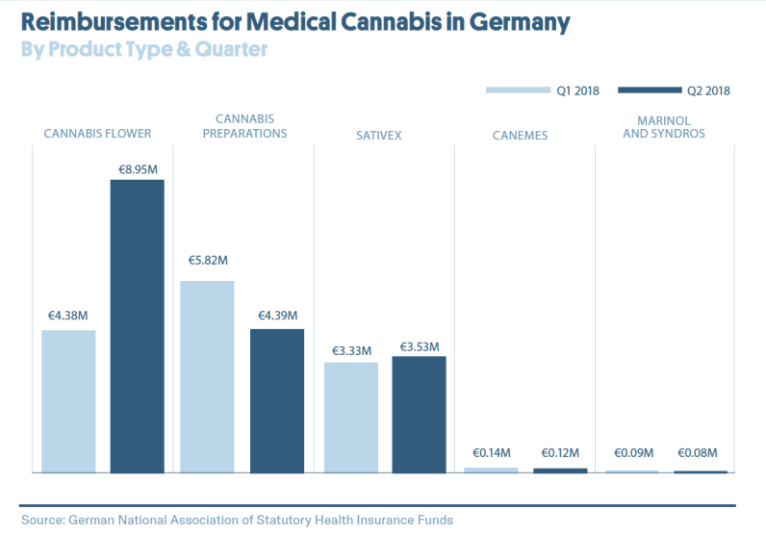
Kanabo has chosen Germany, the EU's largest economy and third largest medical cannabis market after US and Canada, as a target market. Since legalisation, German cannabis patient numbers have surged to over 60,000 from under 1,000 in the first year. Indeed, Germany's government is resorting to imports to cope with demand, while establishing its domestic production capabilities.

Estimates of growth in German market have recently been upgraded based on the number of patients which is forecast to surpass 1 million by 2024, taking the estimated size of the market to $2bn by 2025 at a CAGR of c 50%. The number of prescriptions is reported to be increasing very rapidly from around 27,000 recorded in 2017 tripling to over 90,000 at the end of 2018 and expected to exceed 250,000 by the end of 2019.

In Germany, dried cannabis flower is the most widely reimbursed category of medical cannabis exceeding licensed cannabis medicines in fact. If vaporisation of extracts takes off, clearly this is a very important market for Kanabo even if a small proportion convert to VapePod® Medical.

Reportedly, over 60% of prescriptions received reimbursement during 2018 and the number of insurers has steadily increased, extending to public insurers covering over 90% of the population. This is a key factor contributing the growth in the category.

Reimbursement of Medical Cannabis exceeds licensed medicines



Source: German Health Ministry

Pricing for dried flower is around €30 per gram on an insured basis but can rise to over $2,000 per month for the uninsured, suggesting that this will provide pricing pressure in future if the market becomes more mainstream.

UK medical cannabis market estimated at £1bn by 2024

Currently the UK Unlicensed Medical Cannabis market is in its early stages although has risen rapidly from its early base since 2018 legalisation. The number of active patients at the end of 2020 is estimated to reach 13,000 vs only c 200 in 2019, providing an estimated 2020 market value of £16m.

With barriers removed it could be valued at over 60 times greater according to industry analysts, and over time, policy change, and a concerted drive for scientific data, initiatives that have already been kick started, can drive market growth to meet pent up demand.

Some analysts are forecasting that the UK medicinal cannabis market will rise exponentially by 2025 to reach c £1bn per annum. This market value would require an estimated 300,000 patients, less than 1% proportion of the UK adult population, and with the monthly cost of prescription at c £150-250 per month according to Cannabis Access Clinics UK.

The main growth drivers are likely to be growing momentum and gradual breakdown of the barriers to clinical prescription of cannabis based products, helping to reduce the stigma by means of building-up data and understanding of its benefits. The pandemic and Brexit are argued to be factors that can help to push support of broader legalisation as the c £2.5bn annual value of the UK's cannabis black-market, represents an enormous source of potentially untapped taxable income, and can provide an incentive for UK to drive the industry forward.

This means that conservative attitudes can continue to gradually shift, along with greater awareness and a data driven approach. NICE guidelines for example call for greater evidence to support the use of medicinal cannabis to treat seizures in cases of rare childhood epilepsy which have been high profile and the approval of Epidyolex is another factor.

In March 2019, the Secretary of State for Health and Social Care commissioned NHS England and NHS Improvement to review NHS systems and processes to identify any action necessary to address any barriers to clinically appropriate prescribing of cannabis-based products for medicinal use (CBPMs) on the NHS.

NHS England has commissioned and developed e-learning training on cannabis and cannabis based products for medicinal use which all healthcare professionals can access. This might over time help resolve caution on prescribing an unlicensed medicine.

Kanabo signed its first UK medicinal cannabis distribution framework agreement in February with Astral Health Limited which is fully owned by LYPHE Group, part of Drug Science's Project Twenty21 and a leading proponent of affordable and widespread patient access to medicinal cannabis in the UK and is working towards funded access via the NHS. LYPHE Group has built a patient access ecosystem including clinics, educational services, import infrastructure and is a key participant in the UK medicinal cannabis market. The key benefits of the framework agreement include :

- Kanabo's VapePod® medicinal cannabis formula, under the brand NOIDECS will be made available to Project Twenty21 patients.
- The initial formula which Astral Health will distribute under the name NOIDECS 400T, is based on the Israeli medical cannabis pharmacopoeia as a recommended ratio for pain management. Kanabo and Astral Health will work closely together to make the products available to patients over the next 3-6 months.
- Under the framework agreement, Astral Health acquires rights to sell the Company's VapePod® and certain medicinal cannabis oils in the United Kingdom.

So, momentum is building and Kanabo appears to be leveraging its position as it prepares to run its studies and launch medicinal cannabis extracts in UK. The clear guidance on Medical Cannabis from the UK financial regulator is likely to provide new impetus for mainstream investment in the sector.

Well positioned to address evolving European markets

We think that the next decade will see unprecedented changes in European medical cannabis markets and that Kanabo is well set to participate.

If vaporising extracts takes off in Germany where some forecasts are for a medical cannabis market of $7.7bn by 2028 and if Kanabo meets its development milestones**, a first to market positioning could allow it to attain a significant foothold in this market.**

Kanabo has a pipeline of products in CNS and the first product to market Nabinnol is targeted for the Israeli market. The indications in development and due to enter trials led by Kanabo are high value prescription markets currently:

- Sleep disorders/insomnia prescription Rx value c $3.5bn by 2025[12]
- Chronic pain affects a reported 20% of the population – global opioids market valued at c $30bn
- PTSD – Rx value is an estimated $10bn with anti-depressants being a key segment.

Consequently, if the cannabis oils are proven to be safe and efficacious, the route to market for these products will be via pharmacies and specialist clinics. Pricing and reimbursement for the platform has not yet been set, although we assume that this will be at a premium to the Retail platform and potentially benchmarked on the pricing of dried flower currently around €30/g on a reimbursed basis.

Storz & Bickel's Mighty is priced at around £250 and the Syqe inhaler at $545, although we found no information on annual sales volumes for either product.

CE Mark certification provides Kanabo with a wide opportunity to commercialise the platform for the broader European markets provided vaping becomes adopted and endorsed by the medical community and backed by clinical evidence.

Future opportunity in an evolving sector

Without doubt, the medical cannabis sector has enormous potential to gain traction in UK and Europe, particularly given clarification on FCA regulation, which can reduce stigma and encourage mainstream investment. Pent up demand for cannabinoid medicines supported by scientific data and the positive capital market dynamics of the industry offers new prospects and M&A opportunities for public companies, paving the way for growth.

The recent **$7.2bn** acquisition of GW Pharma (GWP) by Jazz Pharma (JAZZ) is further endorsement and validation of the commercial and therapeutic value of cannabinoid medicines and indicates the significance of the class as a 'mainstream' therapy. Kanabo is the first medical cannabis company to IPO on the main LSE in parallel with an over-subscribed fundraise, and with similar market interest in MGC Pharma (MXC) and the newly listed skin care developer Cellular Goods (CBX), indicates strong investor appetite in the sector.

So, Kanabo is participating in huge markets where projected growth is based on a requirement for education and scientific evidence. These factors are reinforced by market trends in take up of vaporisation for CBD and potentially for Medical Cannabis and specifically its focus on providing quality tested, safe products.

The Group is positioned to participate early in these evolving market with multiple underlying drivers, differentiated by its proprietary, premium quality formulations and the potential to commercialise the first vaporiser approved as a medical device for cannabis oil.

[12] GrandView Research, October 2017

News flow

We are looking forward to:

- Updates on the commercialisation of the Retail CBD products in UK and Germany, including financial reports, marketing, and brand building progress,
- CE Mark submission of VapePod® Medical,
- Initiation of the safety and efficacy study with Nabinnol in Israel and the Safety Study of VapePod® Medical
- Furthermore, milestones on the horizon include assessment of the Medical oils in the pipeline, as well as signing up of new partners including European distributors.

Biographies

CEO, Avihu Tamir: founder of Kanabo Research and a cannabis entrepreneur with over five years of operational experience multiple cannabis ventures. He also has broad consulting experience in the cannabis sector including as a senior strategy consultant at Accenture, specialising in biotechnology, new agriculture and agro-tech as well as innovative technologies. He is the founder of Teva Nature, the leading vaporiser company in Israel. Mr Tamir holds a BA in Finance and Risk Management and a MA in Political Science from the IDC Herzliya, Israel.

Non-Executive Director, Andy Morrison: formerly Chairman of Spinnaker Opportunities, Mr Morrison has focused on managing and developing junior public companies, largely in the energy sector including Xtract Energy Plc, Silvermere Energy Plc and Zeta Petroleum Plc, an ASX quoted firm with operations in Romania.

He began his career at Shell in oil products and in 1999, joined BG Group Plc as a New Ventures Director. Subsequently he held senior New Business Development roles for the industrial gases group BOC Group Plc until its acquisition in 2007. Mr Morrison has a BSc in Chemical Engineering and Fuel Technology from the University of Sheffield and a Diploma in Company Direction from the Institute of Directors.

Non-Executive Chairman, David Tsur: Mr Tsur is the co-founder of Kamada Ltd, listed on both the NASDAQ and Tel-Aviv Stock Exchange and served as CEO and on its board of directors from inception in 1990 until July 2015. He is currently Kamada's Active Deputy Chairman. Prior to co-founding Kamada, Mr Tsur was the CEO of Arad Systems and RAD Chemicals Inc. He has also held various positions in the Israeli Ministry of Economy including Chief Economist and Commercial Attaché in Argentina and Iran. Mr Tsur holds a BA in Economics and International Relations and an MBA in Business Management from the Hebrew University of Jerusalem.

Non-Executive Director, Uziel Danino: (Proposed Director, will be appointed on Admission). Mr Danino has over 35 years of experience in the financial and capital markets sectors. He began his career at Bank Mizrahi in 1981 and worked in all of the bank's business units in a variety of managerial positions, latterly as the manager of the customer asset division. In 2012, he was appointed to head the Excellence Investment House that had NIS 80bn (approximately £17bn) in assets under management. He also serves as a chairperson of provident funds, trust funds, a Stock Exchange Member Brokerage, and serves as a member of the Israeli Federation of Investment Houses. Currently a member and director of Rosario Capital, an underwriting company and director of UMI and Spacecom, he is also a member of the University of Ariel Finance Committee.

Research, Scientific and Advisory Team

Senior Scientist, Michael Adda, Research; Chemical Engineering; Biotechnology; Process Development. Mr Adda holds an MSc in Chemical Engineering from the Ben Gurion University and is the author of ten patents with over 30 years of experience in Process Development and Technology Transfer in the Chemical and Biotechnological Industries. He is also an experienced project manager, technologist, and process development specialist for chemical, biological, and natural products companies. Currently leading Kanabo's activities regarding Phytochemistry, Formulation, and Process Development.

Production and Regulation Director, Miriam O'Reilly, Project Management; Production, Supply Chain, Quality. Miriam holds a BEng in Mechanical Engineering specializing in Biomedical Engineering from the University of Limerick in Ireland and a Master's degree in Industrial Engineering Management from the University College Dublin. Miriam has over two decades of international experience in a wide range of industries, from product development, high-tech manufacturing to industrial construction. Miriam is currently responsible for all aspects of supply, production, logistics, and regulation at Kanabo, working to ensure the production of top quality products that meet customers' needs.

Medical Device Advisor, Yossi Aldar, Executive Management; Medical Devices. Mr Aldar is an experienced executive manager specialising in biomedical and medical device companies. His diverse experience includes acting as CEO of Syqe Medical. He was also one of the creators of the first medical grade cannabis inhaler, has served as Co-Founder and CEO of SteadyMed Therapeutics, Inc. (NASDAQ: STDY), Managing Director of VersaMed (acquired by GE Healthcare), and was Founder and CEO of Flight Medical (TASE: FLGM).

Clinical & Medical Advisor, Nachshon Knoller, MD, Medicine; Clinical Trials; Pharmaceutical Research. A leading spinal neurosurgeon of Israel. He is currently Director of the Department of Neurosurgery at Sheba Medical Center in Tel-Hashomer, Israel and serves as Member of the Scientific Advisory Board of Proneuron Biotechnologies, Inc. In the past, he has served as an Advisory Board Member of Mazor Surgical Robotics Ltd. Knoller's research includes emerging medication treatments and cell therapy (macrophages) for traumatic brain and spinal injuries.

IP and Formulation Advisor, Doron Friedman, PhD, Executive Management; Formulations; Patents & IP. Friedman is a specialist in pharmaceutical R&D with over 25 years' experience as a biomedical entrepreneur and executive who holds over 80 patents, making him the most prolific inventor in Israel. He invented Bausch and Lomb's Lotemax eye drops and has previously served as Director of Pharmaceutical Development at Pharmos Corp, Chief Technology officer of Foamix Ltd and as a pharmaceutical development consultant.

VP of Production, Eilon Bdil, Medical Cannabis Cultivation & Production. Over 10 years' experience managing a licensed medical cannabis cultivation and production facility in Southern Israel, including both crop and business management. He is a Non-Executive Director of Hadiklaim, a Date Grower's Cooperative, which exports to more than 30 countries and is the biggest global producer of Medjoul dates. Previously the CEO of Kibbutz Elipaz.

Product Development Advisor, Hagit Mar-Chaim, PhD, Executive Management, Biotechnology; Regulatory Affairs; Drug Development. 16 years of experience in the Biotech industry focused on R&D and pre-clinical development as well as 12 years in Regulatory Affairs positions. Currently serves as an independent consultant addressing matters such as regulatory strategy, GAP analysis, regulatory submissions, preparation and management of meetings with Health Authorities, quality agreements, non-clinical studies, inputs on GMP manufacturing process for biologics, data and marketing exclusivity and stability studies.

Sensitivities

Kanabo is participating in a sector with multiple growth drivers. As a young company, it is exposed to many of the typical risks affecting SMEs and specific industry related factors.

- While Kanabo has access to strong management expertise, the relevant markets are competitive and other companies may have at their disposal greater marketing resources. We consider that Kanabo has a differentiated product offering to leverage in these markets, focusing on an unmet need for high quality premium products.
- The initial strategy depends on addressing the established market for CBD vaporisation. Farther out, medical platform success depends on adoption of vaporisation as a delivery method for medical cannabis, although there are indications to show that this is favoured by consumers.
- Given concerns on vaping safety, Kanabo's strategy sensibly positions it to address the market by providing clinical and safety data for the medical device and oils.
- R&D and regulatory licenses are needed to initiate human trials of Nabinnol and VapePod® Medical, although these are relatively low barriers.
- Regulatory changes and alteration of existing laws or tightening of rules. In the case of medical cannabis this is particularly affected by attitudes of the regulatory bodies and of the medical profession and payors, and the extent of scientific evidence to support medical cannabis, in turn affecting reimbursement of such products. Evidence and policy suggest that this is evolving.
- Kanabo is reliant on protecting and maintaining its IP including its formulations. The VapePod® is licensed from Jupiter. Kanabo will be listed as the distributor in the CE Mark certification and will own only the VapePod® trademark under which the device is sold. Kanabo is well positioned to achieve sales minimums in order to retain rights to technology in its primary markets.
- The size of the black-market is a key determinant of future visible investable market size. Due diligence must be thorough to ensure no breach of legislation in home markets or in UK law although all of Kanabo's products are legal in their target markets and have undergone thorough due diligence with regard to regulatory requirements.

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