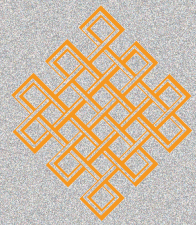


MemeryCrystal



C|T GROUP

The Green Report 2018

THE EMERGING GLOBAL CANNABIS MARKET



Contents

- | | |
|---|---|
| <p>3/ A note from our CEO
Nick Davis, Chief Executive</p> <p>4/ A note from C T F Partners
Michael Brooks, Head of Research</p> <p>5/ Introduction</p> <p>6/ How big is the legal cannabis market?</p> <p>7/ Expert comment
Gavin Sathianathan,
CEO, Forma Holdings</p> <p>9/ The legal status of medicinal cannabis: UK</p> <p>11/ UK capital markets: opportunities and the law</p> <p>14/ The legal status of medicinal cannabis: global markets</p> <p>17/ Timeline: towards a legal medicinal cannabis market</p> <p>18/ Expert comment
Patrick Morton,
Partner, Cannabis Invest</p> | <p>20/ What is the science behind medicinal cannabis treatments?</p> <p>21/ Which are the commercially available cannabis-based drugs?</p> <p>22/ Expert comment
Stephen Murphy,
Managing Director, Prohibition Partners</p> <p>24/ Expert comment
Alex Brooks,
Analyst, Canaccord Genuity</p> <p>26/ Which are the leading cannabis related companies?</p> <p>29/ Expert comment
Ben Ward,
CEO, Maricann Group</p> <p>32/ Conclusion</p> <p>33/ About Memery Crystal [About CT Group]</p> <p>34/ Acknowledgements</p> |
|---|---|



Nick Davis
Chief Executive
Memery Crystal

A note from our CEO

In 2017, I went on two separate business trips to Israel and Canada. Neither was directly related to the medicinal cannabis market.

But by the time I returned home, it was clear to me that something extraordinary was happening in the cannabis space – and it was happening very quickly.

In Israel, I had been introduced to a pharmaceutical company called Therapix. I discovered it was running promising trials of cannabinoid treatments for uveitis.

Now, here I declare a personal interest. I am on the board of the uveitis charity Olivia's Vision. My daughter suffers from this auto-immune disease, which affects vision.

However, until that trip, I had been unaware that cannabis might offer an effective treatment for auto-immune diseases. I did more research, and found that the substance is offering similar hope to people with MS, epilepsy, nausea, cancer and many more conditions.

Weeks later, when I went to Canada, I saw for the first time how the legal cannabis market had won over financiers. In meetings, businesses would complain that it was hard to raise money “because investors are only interested in blockchain and cannabis.”

Those two excursions opened my eyes on the medicinal cannabis sector. I understood how it could have a positive impact on public health. I also observed the role that the North American capital markets had played in its development.

So I resolved to put Memery Crystal at the heart of the drive to make medicinal cannabis legal in the UK, and to help UK investors grasp its potential.

That moment might come sooner than most of us thought. At the start of 2018, the prospect of legalisation of medical cannabis in this country seemed remote. And yet, one Home Office review later, it is happening.

The challenge now is to encourage investors to support this exciting new space, and to make the UK a global centre for research and finance.

To do that, we need to educate. And that is exactly what we plan to do with this report.

In it, you will find a comprehensive summary of the market's investment potential, legal status, leading participants and medicinal promise.

We think you will find it enlightening. And we hope that, when we publish the second edition in 2019, we will be discussing a more mature – and fully regulated – UK medical cannabis market.



Michael Brooks
Head of Research
C|T|F Partners

A note from C|T|F Partners

As most readers will know, in the summer the UK Home Secretary announced his intention to reclassify some cannabis-derived medicinal products. Those that meet safety and quality standards will be rescheduled in autumn 2018, thus allowing clinicians to legally prescribe them.

The Home Secretary's action was broadly welcomed. Many experts observed that the decision should bring the UK into line with European countries such as Germany, the Netherlands, Italy, Denmark, Czech Republic and Finland – all of which have evolving regulatory regimes for dispensing medicinal cannabis.

But what does the public think? The truth is, there is little information available on where the UK population stands on this important issue.

Working with Memery Crystal, we carried out a UK-wide research study. Overall, the results revealed support for the Home Secretary's actions. We found that:

- **74 per cent of people were aware of the announcement (five weeks after it was made)**
- **69 per cent support reclassification for medicinal purposes**
- **10 per cent do not support reclassification for medicinal purposes**
- **Though supportive, 65 per cent of respondents have concerns about the future direction of cannabis legislation**

These results show early base support for medicinal reclassification. However, they also suggest that in order for this support to be maintained, the industry must provide more information on the medical benefits for patients and communicate a unified and consistent message, which allays concerns over 'thin end of the wedge' arguments.

With the UK's regulatory environment still evolving, a unified, consistent industry position would help decision makers formulate a legal framework, which realises the potential benefits of cannabis-derived medical products.

Introduction

The leading medical cannabis investment group Arcview has a motto, which reads:

**Cannabis, meet capital.
Prohibition is crumbling.
Invest in what comes next.**

The words encapsulate the key reason for the growing interest in the cannabis market: what was once shrouded in taboo is now regarded as a legitimate commercial opportunity.

This so-called ‘green rush’ has arisen quite unexpectedly, thanks largely to legislative changes in Canada and the US earlier this decade. At the time of writing 30 US states had legalised medicinal cannabis to a degree.

The US’s legalisation experiment has occurred in parallel with similar moves in other countries. Germany, Israel, Brazil, Australia and Italy are among those to have relaxed their laws in recent years.

However, it is Canada that is driving the investment market for legal cannabis. In 2017, it promised to legalise the drug for medical and recreational use and on October 17, this pledge will become law. Canada is now home to dozens of publicly traded cannabis stocks and the world’s biggest cannabis-related companies (in terms of market cap and revenue).

Globally the market is gathering pace to such an extent that Arcview projects spending on legal cannabis worldwide could hit \$57 billion by 2027.

In this report we will look more deeply into this emerging market, its size, impact, legal status and leading players.

How big is the legal cannabis market?

Arcview estimates that global retail cannabis sales will total \$10 billion in 2018, and will rise to \$24.5 billion by 2021.

However, it projects that the total economic output from legal cannabis will grow 150 per cent from \$16 billion in 2017 to \$40 billion by 2021.

Arcview says North America currently drives 90 per cent of global cannabis

sales, but its share will drop to 57 per cent by 2021. It estimates a total global market worth \$57 billion by 2027.⁽¹⁾

Prohibition Partners, a provider of cannabis market intelligence, goes further. Its latest report projects the European cannabis market alone will be worth €115.7 billion by 2028.⁽²⁾



The best way to achieve cannabis' medical benefits will be through capital markets.

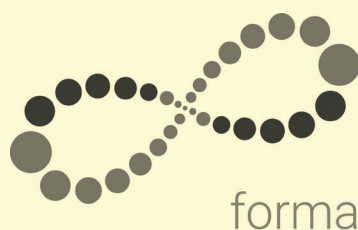


1

<https://www.prnewswire.com/news-releases/consumer-spending-on-legal-cannabis-products-are-outpacing-estimates-679629963.html>

2

<http://www.prnewswire.co.uk/news-releases/prohibition-partners-european-legal-cannabis-market-expected-to-exceed-115-billion-by-2028-687995501.html>



Expert comment

**Gavin Sathianathan,
CEO, Forma Holdings**

How did you decide to become involved in the cannabis sector?

I'd had a mainstream career, working at Bain & Company and then at Endemol, Facebook and Tesco. In 2014, I happened to read some research by Harvard on the cannabis market. I thought "why is Harvard writing about this?". It opened my eyes to what was happening. So when I left Tesco in 2015, I spent a few months in an AirBnB in Colorado researching the market, visiting dispensaries, talking to people. Once you see it close up, the potential of the market becomes very obvious. I set up Forma Holdings in 2016.

Once you see it close up, the potential of the market becomes very obvious.

What does Forma do?

We build businesses in legal cannabis markets around the world. At first, we focused on the US. We acquired licences and licensed businesses in

states like Nevada, which was in the process of legalising medical use in 2016. With licences, you get these step changes in valuation, especially when recreational use is legalised. However, we are now moving away from touching the plant to targeting the ancillary business in the US.

Why the retreat?

The surprise Trump election and the comments from Jeff Sessions have certainly made the market more uncertain in the US. It's harder to build a business there I think.

If and when it emerges, how will the European market for medical cannabis differ from its US counterpart?

They will be very different. The European market will be more closely integrated with the healthcare system. In the US, you have this market for cannabis that started with grass roots activism and moved towards legalisation via public ballots. Cannabis is still not part of the public health set-up in the US.

The UK is behind continental Europe and North America, and it's true that many investors in the UK find the space difficult to navigate.

In the US, doctors give patients 'recommendations' which enable patients to go to dispensaries, where they generally have a conversation with a 'bud tender' who guides the patient's choice of product.

It won't be the same in Europe. Cannabis will become part of the mainstream healthcare system here. I went to a meeting of the European Parliament in 2016 and since then there has been movement in regulatory frameworks across the continent.

How do you view the opportunity for investors in continental Europe?

It's massive. We're seeing activity in Germany, Italy, Greece, Malta, Portugal, Switzerland and other regions. There's potential in every part of the industry – cultivation, retail, distribution, and even things like data analysis.

How soon will the UK fully legalise medical cannabis treatments?

Last year, I was telling people five years. Now it seems like five months is a possibility given the actions of the Home Secretary. The narrative has completely changed. It seems to be less a question of 'whether' and more a question of 'when'.

We just need to have a grown-up and honest conversation about the subject.

There are many clear medical benefits to cannabis, though obviously we need to know more. When the critics point to the relative lack of research and evidence, I say it's difficult to conduct clinical trials with a Schedule 1 substance. The situation has to change. What we're doing currently doesn't work.

How does this uncertainty affect UK investors?

Well, obviously the UK is behind continental Europe and North America, and it's true that many investors here find the space difficult to navigate. However, we're seeing a lot of interest from high net worth individuals and also, interestingly, from corporates. I think they're responding to the impact that cannabis is having on alcohol sales, and also things like sleeping pills and dietary supplements. They want to find out more.

Institutional investors are more wary. But this will change. At the moment it's not easy to raise money for cannabis-related businesses on AIM or the LSE. But in the medium and long term it will become easier. Eventually, we will build an industry here, and it will be substantial.

Forma builds businesses in legal medical cannabis markets around the world.

The legal status of medicinal cannabis: UK

Historically, any company considering a listing in the UK has had to be mindful of the following laws.

- **The Misuse of Drugs Act 1971**
- **The Misuse of Drugs Regulations 2001**
- **The Misuse of Drugs (Designation) Order 2001**
- **The Proceeds of Crime Act 2002**

The MDA 1971 places controlled drugs in three categories according to their relative harm, namely Classes A, B and C (with A as the most harmful).

Meanwhile, the MDR 2001 categorises drugs by their medical benefits. The categories are as follows:

Schedule 1

Little or no therapeutic value and under the strictest control. Possession of these drugs requires a Home Office licence.

Schedule 2

These drugs have much therapeutic value, but are highly addictive and therefore subject to abuse.

Schedule 3

Substances with therapeutic value, but less potential for abuse.

Schedule 4

These drugs are not subject to safe custody or recording requirements.

Schedule 5

Low-strength preparations, which are exempt from all CD (controlled drug) requirements.

Despite these apparent legal restrictions on cannabis, the importation, exportation, supply, possession and cultivation of cannabis can be lawful in the UK – subject to the organisation concerned possessing the relevant Home Office licence under the MDR 2001 and the MDDO 2001.

UK: 2018 law change

In July 2018, the UK government announced it would relax the laws around medicinal cannabis. Home Secretary Sajid Javid confirmed he would move the classification of cannabis-derived medicinal products from Schedule 1 to Schedule 2. This means specialist doctors should be able to prescribe it freely for the first time.⁽³⁾

Javid ordered a review in June 2018 in response to high-profile cases involving epileptic children, who were denied access to cannabis oil to treat seizures. Within weeks the Chief Medical Officer and the Advisory Council on the Misuse of Drugs had recommended a change in the law.

We believe the change will also impact the ability and willingness of companies to list on UK markets.

The UK legal community welcomed the re-think. David Young is a barrister at Red Lion Chambers, specialising in criminal, regulatory and international law. He has advised several UK medicinal cannabis investment companies, as to the legal and regulatory framework of medicinal



“I welcome the changes and applaud the Home Secretary’s intervention. Many people were moved by the tragic cases of the children involved and the negative impact of our archaic, cumbersome laws. Their parents had to go to extraordinary lengths to obtain medicinal cannabis for their epileptic conditions, when they should have been able to visit a doctor and get a simple prescription.”

David Young, Barrister, Red Lion Chambers

cannabis. He says: “I welcome the changes and applaud the Home Secretary’s intervention. Many people were moved by the tragic cases of the children involved and the negative impact of our archaic, cumbersome laws. Their parents had to go to extraordinary lengths to obtain medicinal cannabis for their epileptic conditions, when they should have been able to visit a doctor and get a simple prescription.”

The next stage is for the government to finalise a regime under which clinicians can prescribe cannabis-derived medicinal products.

David Young adds: “The ACMD made two important recommendations. Firstly it advised that, given the lack of clarity over what cannabis-derived medicinal products are, the

Department of Health and Social Care and the Medicines and Healthcare Products Regulatory Agency should develop a clear definition.

“Secondly it stated that, once this definition has been developed, only products meeting this definition should be moved into Schedule 2. It noted there are currently a number of internationally available products which may meet these medicinal standards.”

So in summary, the current position is as follows: pharmaceutical and CBD wellness products are legal, subject to Home Office licensing requirements. Medicinal cannabis is currently being rescheduled and should be legal before the year end. Recreational cannabis remains illegal.

UK capital markets: opportunities and the law

Medicinal cannabis

As stated above, it has been possible to gain a special Home Office exemption / licence to develop and manufacture cannabis-based drugs in the UK.

GW Pharma did so first. Its product Sativex was granted a licence in 2006. Effectively, the Home Office recognised Sativex as a pharmaceutical product with medical benefits. As a result, GW Pharma began manufacturing the drug in 2013.

With its licence in place, GW Pharma listed on London's AIM market (though it has since de-listed from AIM but continues to trade on NASDAQ).

Today, three more companies (Ananda, Sativa and High Growth Capital) have listed on the NEX. They are not directly engaged in cultivation. Instead, they focus on investment opportunities in the sector.

These companies have all taken specific legal advice and have carefully focused their investment policies around funding companies in jurisdictions outside the UK where medicinal cannabis R&D and sales are legal.

Although several companies have invested in medicinal cannabis products or companies based outside

the UK, the legality of investing in domestic companies (or producing or selling medicinal cannabis products in the UK) remains subject to specific review. In each case the term 'medicinal cannabis' and the scientific make-up of the product requires specific medical and legal consideration.

Clearly, the decision by the Home Office in July 2018 to change the legal classification of medicinal cannabis will change the law yet again for UK-based investors. At time of writing, however, the details of the new clinical regime had not been finalised.

Recreational cannabis

At present it is illegal for a UK investment vehicle to fund a recreational cannabis company – even if the company operates in a jurisdiction in which recreational sales and consumption is legal.

This sort of investment would likely contravene the Proceeds of Crime Act (POCA) 2002, which prohibits activity related to "criminal property".

"Criminal property" has a specific definition in the POCA. It captures a benefit (such as money) which is derived from conduct outside the UK which would constitute an offence if it occurred in the UK – in this case selling and/or consuming recreational cannabis.

Public attitudes to medicinal cannabis

The public's perception of cannabis has turned upside down. Without doubt the substance was taboo a decade ago. This is no longer the case – especially in markets where the medicinal treatments have been made legal.

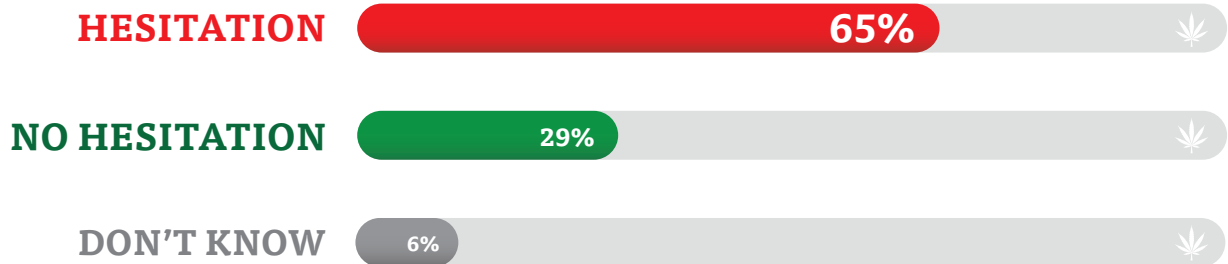
Research reveals the extent of the change in North America. For example, according to a BDS Analytics study, “Public Attitudes and Actions Toward Cannabis in the U.S. and Canada”, 83 per cent of American adults and 84 per cent of Canadian adults said they favour some form of legalisation.

Interestingly, the same change is now under way in the UK. According to exclusive research by CT Group research for Memery Crystal, two

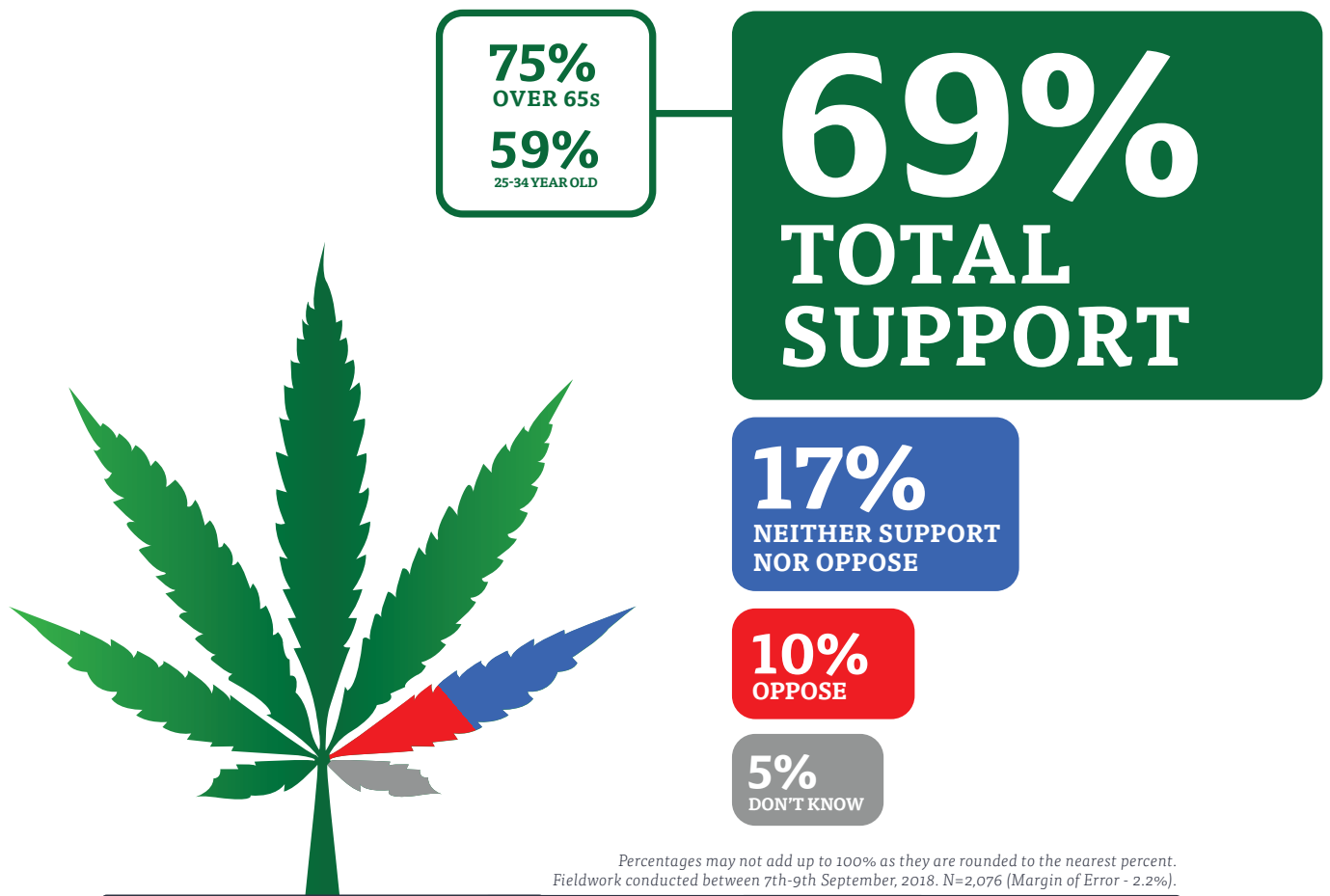
thirds of people (69 per cent) say they support reclassification for medicinal purposes. Just 10 per cent say they do not. And support for reclassification is higher among older generations, with three-quarters (75 per cent) of those over 65 years old supporting the decision.

It should be noted, however, that there remains a significant level of concern around how the reclassification is carried out. Of those polled, a majority (65 per cent) said they have ‘hesitations’. Half of those polled cited concerns such as reclassification for medicinal purposes encouraging recreational use, worries around implementation, and whether reclassification for medicinal purposes would be a gateway to full legalisation or an increase in use of harder drugs.

Two thirds of people have a fear, concern or hesitation regarding the government's decision to relax the laws around the use of marijuana for medical purposes.



Fieldwork conducted between 7th-9th September, 2018. N=2,076 (Margin of Error - 2.2%)



Percentages may not add up to 100% as they are rounded to the nearest percent.
Fieldwork conducted between 7th-9th September, 2018. N=2,076 (Margin of Error - 2.2%).

Support for the government's decision to relax the laws on the use of marijuana for medical purposes is also high.

The legal status of medicinal cannabis: global markets



US state law

In the US, 30 states and the District of Columbia currently have laws that legalise medicinal cannabis use in some form. The newest additions are California, Massachusetts and Maine, which will each establish a legal framework for sales in 2018.

Meanwhile, virtually all states – even those with no laws explicitly legalising the drug – now allow for limited use of medical cannabis under certain circumstances. Alabama and Mississippi, for example, permit it for epilepsy. Virginia allows it with a prescription from a doctor.

US federal law

The legal status of cannabis in the US is complicated by US federal law, which classifies it as a Schedule 1 Controlled Substance.

This pertains to drugs that:

- 1. Have no medical use**
- 2. Have high potential for abuse**
- 3. Are unsafe**

Clearly, federal and state laws are opposed. So how can cannabis-related businesses continue to trade?

The answer lies with the 2013 Cole Memo. This stated that the federal government would take a hands-off approach as long as businesses: follow local laws; do not divert product out of state; avoid cartels and money laundering and keep products out of the reach of children.

However, the Trump administration has indicated it might rescind the memo. This has led to some confusion among investors and law enforcement. At time of writing, this had not been resolved.⁽⁴⁾

Virtually all states – even those with no laws explicitly legalising the drug – now allow for limited use of medical cannabis under certain circumstances.

⁴ <https://www.marketwatch.com/story/jeff-sessionss-justice-department-set-to-rescind-policy-protecting-states-that-legalize-marijuana-2018-01-04>

Whatever happens with The Cole Memo, federal prohibition will still throw up hurdles to cannabis enterprises. For example, most struggle to get a bank account. While it is not illegal for banks to provide services to cannabis businesses, the regulatory burden deters most from doing so.

Tax is also an issue. Thanks to rules around profiting from drugs, many cannabis businesses pay higher business rates than average.

Naturally, these restrictions also limit the options for investment. Loans are hard to come by. The law also prevents cannabis enterprises from pursuing IPOs. The Financial Industry Regulatory Authority (FINRA) has stated it will not approve an S-1 filing from a cannabis company while the drug is still classified as a Class 1 controlled substance. As a result, there has been no filing to date on the major markets of a wholly cannabis-related company.

Having said this, there are now a number of venture funds that specialise in financing legal cannabis start-ups.

Analysts expect Canada to quickly become the most valuable region for the medical cannabis industry.



Canada

Canada is the global centre for the legal cannabis market. It actually legalised the substance for medical use in 2001. This led to the creation of a small market of producers that would typically send their products to patients by mail.

However, the industry is now poised for more comprehensive legalisation in the form of the Cannabis Act, which became law in 2018. After legalisation, cannabis will remain controlled. Householders will be permitted to cultivate up to four plants per residence. Otherwise, growers will need a licence to sell through government-approved dispensaries.

But crucially, companies will be able to export their products to countries that have legalised consumption – and to US states with sufficiently liberal laws. Most countries do not permit cannabis exports, so analysts expect Canada to quickly become the most valuable region for the medical cannabis industry.

Deloitte projects the Canadian market will be worth at least \$5 billion in sales in 2018 alone. ⁽⁵⁾

Europe

Several countries have passed laws that pave the way for medicinal cannabis treatments. They include:

- Czech Republic
- Denmark
- Germany
- Italy
- Poland
- Portugal
- Spain
- The Netherlands

Other European countries don't have medicinal cannabis laws. Yet they still make the substances available to patients under special access rules.



Israel

Israel is one of the leaders in medicinal cannabis commerce and research. Though recreational cannabis use is still illegal, the country does permit medical treatments. In 2016, the government removed limits on the number of approved

growers, and licensed more doctors to issue prescriptions.

It also agreed to allow exports of qualified medical cannabis. However, in February 2018, Prime Minister Benjamin Netanyahu suggested he might reverse the plan. At time of writing, the issue remains unresolved.

Israel's emerging medicinal cannabis sector is watching developments carefully. According to a 2018 report by the IVC Research Center of Tel Aviv, Israel already has 68 companies active in the field including Breath Of Life (BOL) Pharma, Tikkun Olam and ICAN.

These companies are supported by Israel's highly developed investment sector. The country's military R&D capability acts as a training ground for innovators and entrepreneurs. It has yielded unicorns such as Waze, Viber and Wix. As a result of this activity, there are believed to be over 200 VC funds active in Israel.

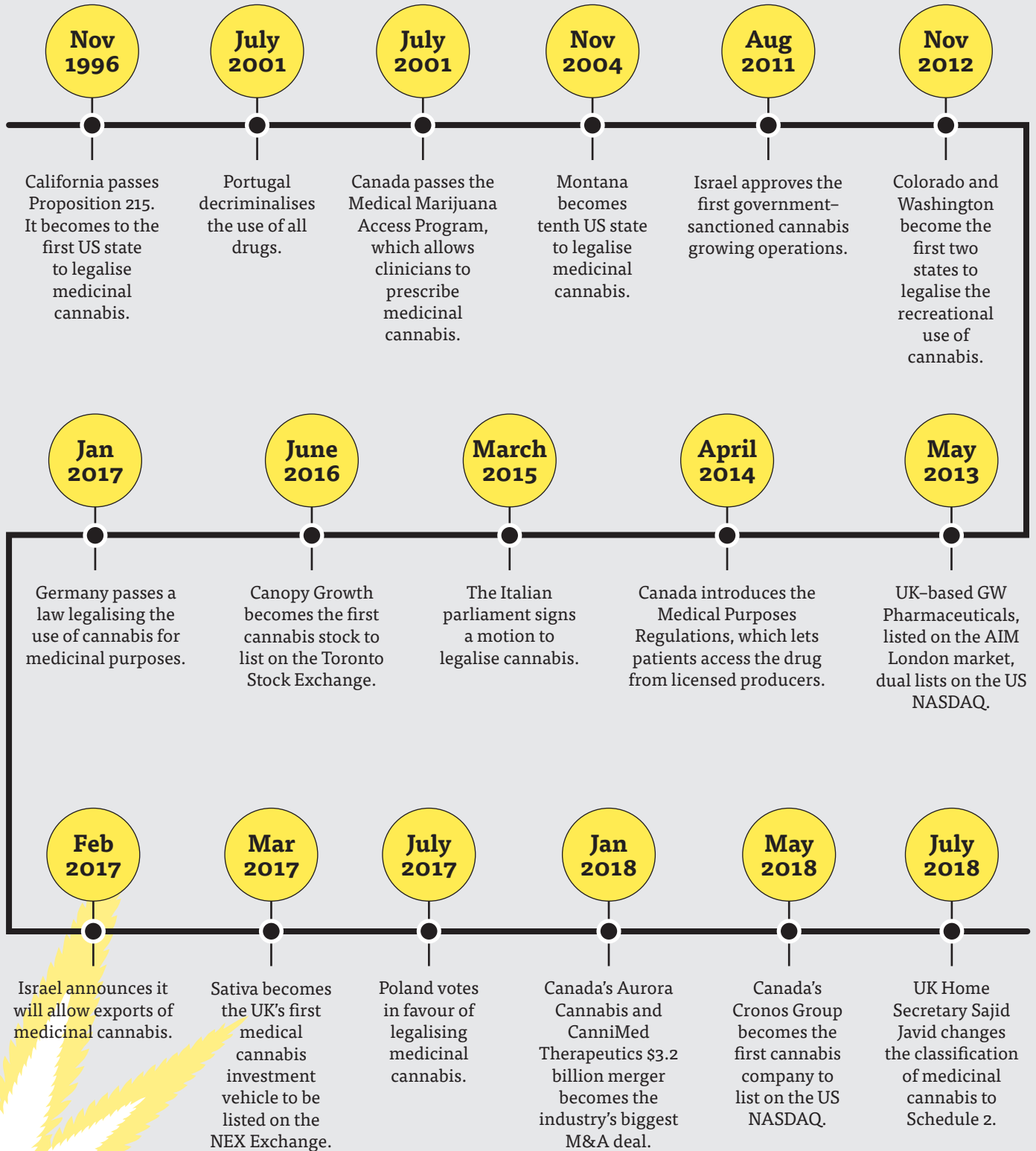
IVC says that from 2013 to 2017, \$76.4 million was invested into Israeli medical cannabis startups⁽⁶⁾. The sector has already closed some major deals. For example, in March 2018 Medivie Therapeutic announced a \$110 million contract to produce medical cannabis for a European buyer.



Australia

In 2016, the government legalised medicinal cannabis use for patients with painful and chronic conditions. It says it will let approved companies legally import, store and sell the drug until domestic production meets local needs.

Timeline: towards a legal medicinal cannabis market





Expert comment

**Patrick Morton,
Partner, Cannabis Invest UK**

How and when did you become aware of the legal cannabis market opportunity?

It was about two years ago. I was working in the UK equity markets in mining, and started to see what was happening with cannabis in Canada. I got curious about the science behind it, and the business potential. Obviously, I was late to the party in Canada, where the easy money has been made. But there are very good reasons to be optimistic about the UK market, which I'm certain will be a great environment for investors. So my partner Dan Sorger and I started Cannabis Invest UK in 2017.

How would you sum up the arguments in favour of legalisation?

You just have to look at the data from four years of experience in Colorado. It shows that there has not been a negative impact on public health. You don't get a big rise in crime. What you do get is a big rise in tax revenue and economic activity. Then, obviously, there are the medical benefits. Cannabis has so much

potential in so many areas – pain relief, epilepsy, MS and so on. But I think a cancer treatment could be the real breakthrough.

Is a lack of clarity around legality deterring institutional investors?

Definitely. At our recent conference, one third of attendees were institutional investors. But they were purely there for information. They are not ready to invest yet. So I'd say the market is being driven by managers at private investment funds and by high net worth individuals. However, if you look at Canada, you can see that the big pension funds have now come into the market. I can see the same pattern emerging here.

Why is the investment community interested in the UK, when other European markets are far more liberal?

We have a £6 billion market for illicit medicinal and recreational cannabis in this country, so clearly there is demand. Much of that money is going to organised crime. With the changing public perception, and some progress

on government policy, it's now feasible to see that market being legalised in the foreseeable future. We also have sophisticated financial markets here, plus deep pools of capital and a global perspective. At our conference, we had 12 speakers representing businesses worth a combined \$9 billion of market cap. That's a third of the global industry. I think that demonstrates the interest in the UK.

Why are you so confident about the UK changing its laws?

I've seen a big change just in the last year. The Alfie Dingley and Billy Caldwell stories are not new, but the way they have been reported has changed. There seems to be a tipping point now.

Cannabis has so much potential in so many areas – pain relief, epilepsy, MS and so on. But I think a cancer treatment could be the real breakthrough.

If legalisation arrives here, will established Canadian companies dominate the market?

This is a big talking point. I personally don't think so. Not in the long term. I can see that the big companies such as Canopy and Aurora are already looking at Europe. However, I also believe there is huge potential for domestic companies. I think it's possible consumers will choose locally

sourced products and home grown brands.

Which cannabis sectors hold the most promise?

There's no clear leader in the pharma side, though GW is showing what's possible. That market is wide open. Also branding and retail. I look at this growing side, and I think it is becoming commoditised – and that ultimately growing will move to more temperate regions. Conversely, there's a massive opportunity in branded goods and retail. In the US, there are a number of private branded businesses that are approaching a major liquidity event or IPO. The community is watching them very closely. The fact is, there is the opportunity for someone to create the Grey Goose or Hendricks of the market.

So how soon will the UK legalise cannabis?

It's pretty remarkable how fast things move. Six months ago, I'd have said it would be three years to legalisation for medicinal cannabis. Now we are just weeks away, depending on the legislative process. Recreational will take much longer if it comes at all. Mainstream opinion in the UK seems to be against it. But if you look at the Canadian experience, you can see how quickly attitudes change when you legalise medicinal use.

Cannabis Invest UK connects global cannabis industry companies with the UK and European investment community. It organises the premier UK event for raising awareness of the commercial and public health potential of the substance.

What is the science behind medicinal cannabis treatments?

The 'secret' of cannabis' medicinal qualities lies with ingredients called cannabinoids. There are around 113 of them in the stalk, leaves, flowers, seeds and resin of plants.

The most psychoactive is delta-9-tetrahydrocannabinol (THC). Others are cannabidiol (CBD) and cannabin (CBN), both of which are non-psychoactive but still possess pharmacological effects.

Crucially, humans have cannabinoid receptors – called endocannabinoids – on cells located in nearly every organ in the body. So when a person ingests cannabinoids from a plant, they interact

with the receptors and trigger physical and psychological effects in the body.

Researchers believe these interactions can help to treat many conditions including:

- **Cancer**
- **Epilepsy**
- **Glaucoma**
- **HIV/AIDS**
- **Multiple sclerosis**
- **Inflammation and autoimmune disorders (arthritis, Crohns, uveitis)**
- **Chronic pain**
- **Fibromyalgia**

Which are the commercially available cannabis-based drugs?

The availability of cannabis-based medications varies from country to country and (in the US) from state to state.

In the UK, the only approved drug is Sativex, a mouth spray for MS. David Young, a barrister at Red Lion Chambers, describes the unusual legal status of the drug.

“It originally became available for use in healthcare under a Home Office general licence issued in 2006,” he says. “By 2013, a Drugs Designation Order moved the substance to part 1 of Schedule 4 (see legal section). This essentially distinguished Sativex from cannabis in its raw form.”

The main cannabis-based medications available in countries where medicinal cannabis is legal include:

SATIVEX

A mouth spray for MS sufferers.

BEDROCAN

Similar to Sativex. Bedrocan is also the name of the Dutch company that makes it. The company's other varieties are Bedrobinol, Bedica and Bediol.

EPIDIOLEX

A CBD-based liquid used to treat certain forms of childhood epilepsy.

CESAMET/NABILONE

A THC-based medicine that can mitigate nausea and vomiting caused by cancer chemotherapy.

MARINOL/DRONABINOL

Prescribed to relieve nausea and vomiting, and to stimulate appetite.

SYNDROS

A liquid formulation of dronabinol delivered in spray form.



Expert comment

**Stephen Murphy,
Managing Director,
Prohibition Partners**

What prompted you to launch Prohibition Partners?

My background is in technology, digital media and corporate finance. I became interested in the opportunity around cannabis, but there was barely any information around about the European market. I realised that high quality investment opportunities would only follow market intelligence. So I co-founded Prohibition Partners to provide that data. We now track the key commercial and regulatory changes across 29 markets.

Your audience must reflect the size of the European industry. What are the numbers?

We publish a major market report, and the most recent, The European Cannabis Report™ had over 60,000 readers. Meanwhile we have 10,000 subscribers to our weekly newsletter. The readers are mostly entrepreneurs, investors, politicians, banks and FMCG brands.

The latest report projects the European cannabis market will be

worth €115.7 billion by 2028. How did you calculate that figure?

We looked at existing demand and then model how that demand would grow based on what's been happening in existing legal markets. We factor in pricing changes over time and – in the medical space – the growing number of qualifying medical conditions. The valuation also includes the revenue from ancillary markets like media and marketing. €115.7 billion is a large number, but it's actually pretty conservative.

You say over €150 million has been invested in the European cannabis market this year. Where did that figure come from?

Mostly from Canadian companies. They have an advantage in terms of capital and they obviously have expertise in cultivation. But I wouldn't expect North American firms to dominate the market. Europe is so complex. There is still no Europe-wide ruling on the drug from the EU, so every country is doing something different in terms of legality and tax.



How do you view the opportunity for domestic investors in the UK?

It depends. Investors have been holding off till the legal picture becomes clearer. I think the safest investment will be in ancillary cannabis businesses rather than cultivation. But the UK is such an important commercial and strategic region because of its historic expertise and investment pool. In fact, we recently launched European Cannabis Holdings as an investment vehicle and completed a fund raise. I'm certain we are now the best-placed group to start investing in the European market.

Will the London Stock Exchange embrace the legal cannabis market?

Well, there are certainly lots of different opinions around the legality

of listing in the UK. Until someone properly challenges the law and tests it, the situation will remain uncertain. There are now several companies on NEX that could be described as cannabis related, so you could say NEX is positioning itself as the cannabis-friendly exchange.

The appetite is certainly there. Look at Canada: most of the IPOs in the last year or two have been cannabis related. On the other hand, high growth industries do attract a certain kind of investor pool, which may hamper sustainable growth.

Prohibition Partners is a provider of market intelligence and strategic insight into the European legal cannabis industry. Its reports and newsletters are read by investors, entrepreneurs and regulators.



CANACCORD | Genuity

Expert comment

Alex Brooks,
Analyst, Canaccord Genuity

How would you characterise the European investment climate for legal cannabis?

A year ago I would have said the European market would take a long time to develop. Clearly, that's changed. There's been legalisation in Germany and gathering momentum in the UK. Things are moving.

Can you summarise the position of the UK exchanges to the cannabis market?

NEX has obviously listed Sativa, Ananda and High Growth Capital and it appears to be comfortable with the idea of medicinal, but not recreational cannabis. Meanwhile AIM is actively discussing the issue. As for a standard listing on the Main Market, well we just don't know. My understanding is that the exchange is relatively supportive. But what we really need is a commitment from the brokers and the law firms to test the law. But at present, it's not entirely clear what that legal basis is.

Where is the confusion?

One of the main problems is clarifying

the distinction between what is medical and what is recreational. Obviously, the Canadians have their own definitions, but I don't think any UK company would base their decisions on that. As an investment bank, we certainly can't be legally 'grey' in this sense. We have to wait for a QC to opine on it.

Could UK exchanges lose out to their European counterparts?

As a firm, we don't work on public market transactions in Europe outside the UK. But I think plenty of European businesses will be interested in a UK listing even if they do no business here at all. They will come for the access to capital and the quality and quantity of expert support in the UK.

Are private investors in the UK active in the international market?

Significant UK money has gone to Canada already. It's mostly family office and hedge fund money, plus some private clients. There are also private clients who struggle to get access to the Canadian market. They are driving interest in UK opportunities.



Plenty of European businesses will be interested in a UK listing even if they do no business here.

The big news is Miton investing in Sativa. It was a smallish stake, but Miton is a pretty mainstream investor.

How do you see UK law developing?

I suspect that UK parliamentarians will be reluctant to mimic the Canadian and US approach, where medical cannabis is basically recreational. They won't support that. So now that legalisation is coming, much will depend on the distribution structure.

I think the main questions are: will patients access the drug through regular prescription or some new and separate regime? And will it be approved only for, say, MS and seizures? Or will it be approved for pain relief too? Obviously, if it's the latter, then the market opportunity will be much much bigger – and much more interesting to investors and to us.

Will the UK eventually legalise recreational cannabis too?

I can't see a case for recreational. That feels like a stretch. And the UK is not alone in this. We shouldn't forget that while Germany, Italy, Spain and others make headlines around legalisation, countries such as France and Sweden are still very prohibitive.

Canaccord Genuity is the global capital markets division of the Canadian investment bank Canaccord Genuity. It offers transactional expertise in 18 industrial sectors, and has established itself as the leader in the legal cannabis space. Since 2016, it has advised and underwritten more than 50 transactions.



Which are the leading cannabis related companies?

Canada

Canada has the world's most advanced cannabis-related industry. This is due to its progressive legislation, and its proximity to the US.

Canada's cannabis companies can legally export to the big neighbour to the south. And many have the financial support to invest in growth. They frequently access their funds from US investors, who look to Canada while there are restrictions on their domestic market.

As of 2017, Canada was home to 69 publicly traded cannabis-related companies, most of which were listed on the Canadian Securities Exchange and the Toronto Stock Exchange.

Canada's cannabis-related companies collectively raised more than \$770 million in the first half of 2017 according to Viridian Capital Advisors. That compared with \$43 million in the first half of 2016.⁽⁷⁾

The leading independent investment bank by number of transactions and total amount raised is Canaccord Genuity. Its capital markets division has participated in 141 transactions for companies such as Aurora Cannabis.

Examples include:

AURORA CANNABIS

This Canadian licensed producer purchased Cannimed in a \$1 billion cash-and-stock deal. Later it bought MedReleaf for about \$2.2 billion. It has also invested in compatriot firm Radiant and Australia's Cann Group.

CANOPY GROWTH

The first cannabis company in North America to be publicly traded. In 2018, Canopy Growth launched Canopy Ventures, a venture fund with \$50 million to invest in cannabis-related start-ups.

THE CRONOS GROUP

The first cannabis company to be listed on the NASDAQ. It also trades in Canada on the TSX Venture Exchange.

APHRIA

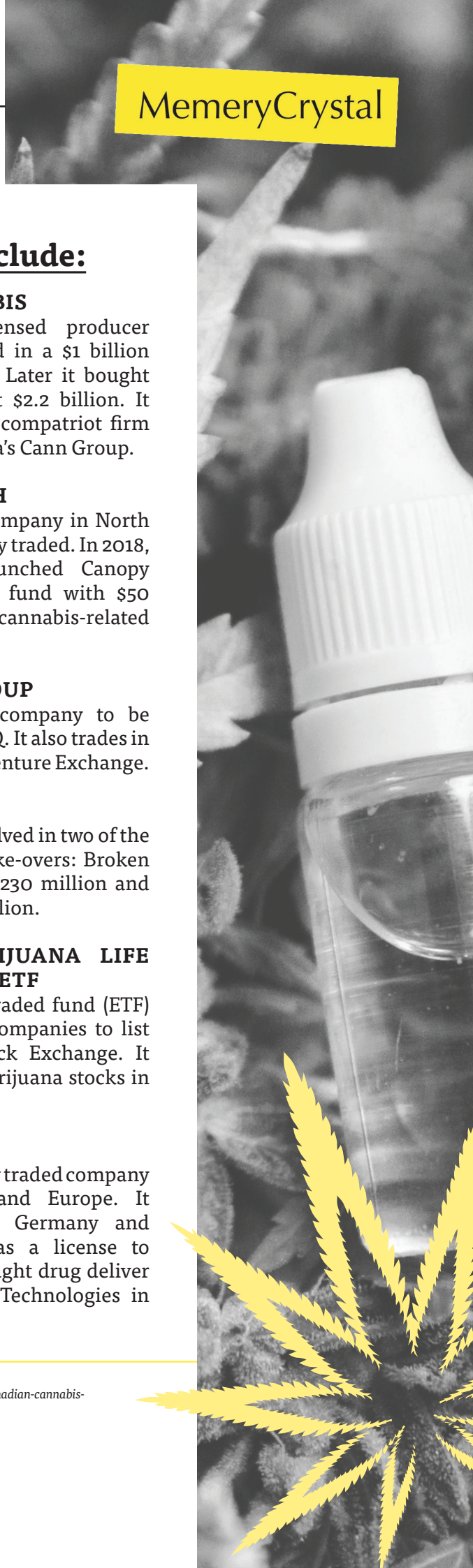
Aphria has been involved in two of the industry's biggest take-overs: Broken Coast Cannabis for \$230 million and Nuuvera for \$670 million.

HORIZONS MARIJUANA LIFE SCIENCES INDEX ETF

The first exchange-traded fund (ETF) based on cannabis companies to list on the Toronto Stock Exchange. It launched with 14 marijuana stocks in its basket.

MARICANN

Maricann is a publicly traded company active in Canada and Europe. It has subsidiaries in Germany and Switzerland, and has a license to trade in Malta. It bought drug deliver specialist NanoLeaf Technologies in October 2017.



The US

US investors have certainly been very active in the cannabis space. That said, the legal status of the drug (still prohibited by federal law) has restricted the sector in two ways. First, it has prevented 'pure' cannabis companies from listing on the public markets. Second, it has deterred most institutional investors from participating in the space.

In spite of these barriers, the 'green rush' has delivered dozens of start-ups and many dedicated cannabis investment funds.

As evidence, Viridian's Cannabis Deal Tracker registered \$1.23 billion in investments in the first five weeks of 2018 alone (across US and Canada). That compares with \$1.29 billion for the entirety of 2016. ⁽⁸⁾

Meanwhile, cannabis market analyst Arcview currently has over 600 accredited investors on its networking and research platform.

The leading dedicated US cannabis funds include:

- **iAnthus Capital**
- **TILT Holdings**
- **Cannabis Wheaton**
- **Canna Angels**
- **Phyto Partners**
- **Privateer Holdings**
- **Poseidon Asset Management**
- **Salveo Capital**
- **Casa Verde Capital**
- **Tuatara Capital**
- **Merida Capital Partners**
- **MJIC**
- **Floris Funds**



- **Green Growth Investments**
- **Gotham Green**
- **Greenfield Capital Partners**
- **Halley Venture Partners**
- **Hypur Ventures**
- **Liquid2 Ventures**
- **MedMen**
- **Phyto Partners**
- **Tress Capital**
- **Viridian Capital Advisors**

The above firms are driving the market for legal cannabis. Many have completed rounds worth \$100 million plus and invested in multiple start-ups.

For example, Privateer Holdings' fundraising total over two rounds is \$200 million. Its portfolio companies include Leafly, Tilray, Marley Natural and The Goodship. Phyto's investments include Baker, Flowhub and Leaflink.

Meanwhile, Poseidon Asset Management has made over 100 investments since launching in 2013. At time of writing it was launching a second fund with the goal of raising up to \$150 million from investors.

And there have already been successful exits – nearly all of which involve a corporate sale. iAnthus Capital acquired Citiva Medical for \$18 million and GrowHealthy for \$48 million.

SEC restrictions have ensured that only a handful of cannabis-related companies have listed on US exchanges. Smaller stocks are traded on over the counter (OTC) exchanges, with varying degrees of legitimacy.

Examples Include:

INNOVATIVE INDUSTRIAL PROPERTIES (IIPR)

IIPR was arguably the first cannabis company to complete a major US IPO. It is a Real Estate Investment Trust that targets growers of medical marijuana.

INSYS THERAPEUTICS

Insys is a pharmaceutical company listed on the NASDAQ. It is developing Syndros, an oral solution derived from dronabinol – the pharmaceutical version of THC.

ZYNERBA PHARMACEUTICALS

NASDAQ-listed Zynerba is working on cannabinoid treatments delivered via the skin to treat neurological and psychiatric disorders.

MTECH

MTech wants to address the lack of capital available to cannabis companies by launching a 'blank check' investment company. In January, it filed with the SEC for a future \$50 million IPO.

The UK

SATIVA INVESTMENTS

Sativa is the UK's first medical cannabis investment vehicle. It is listed on the NEX exchange, and has a market cap of around £24 million.



HIGH GROWTH CAPITAL

High Growth Capital aims to track companies in the medicinal cannabis sector that are quoted or listed on public exchanges. It listed on the NEX in June 2018.

ANANDA

Ananda was established to invest in the developing market for medicinal or therapeutic cannabis derivatives. Its initial strategy was to invest primarily in companies or projects in Israel, Canada and the Netherlands. Later, it amended this to "take advantage of opportunities in any jurisdiction which has well established laws in relation to medicinal cannabis". Ananda listed on the NEX in July, and was advised by Memery Crystal.

GW PHARMACEUTICALS

This is the British-based company that markets Sativex. It was dual-listed on the London AIM market and the US NASDAQ. However, in 2016, it de-listed from AIM.


maricann^{TM / MC}

Expert comment

**Ben Ward,
CEO, Maricann Group**

How and why did Maricann launch into the legal cannabis market?

The company was founded in 2013 by seven pharmaceutical professionals, who had previously sold businesses for \$1.1 billion and \$2.4 billion. They saw an opportunity because of a change in the law in Canada. The Medical Marijuana Access Regulations (MMAR) had legalised the drug in 2001, but the law was being abused and there was a growing black market. In 2014 it was replaced with the Marijuana for Medical Purposes Regulations (MMPR). This made it possible for commercial companies to manufacture and distribute marijuana. Maricann was one of the first companies to obtain a licence.

There's clearly been a huge boom in cannabis-related stocks in Canada. Is the market now overheated?

I don't think so. The investment climate is still very good – but only for companies with licences and with differentiators. I think late stage entrants that offer only cultivation are finding it harder. There's demand for one million kg a year, and production

capacity is said to be 2.4 million kg. But some producers have yet to put a shovel in the ground.

How is Maricann responding to the legalisation of recreational cannabis in Canada?

It's a tremendous opportunity – a fortuitous one that we didn't foresee when we launched the company. We are preparing for it by bringing in experts from the alcohol industry to help us develop the products that people want.

Do you see the same evolution from medicinal to recreational in other markets?

No. I believe the legalisation of medicinal cannabis is inevitable. It's so easy to see the benefit it can have on seizures and other conditions. But the argument for recreational is not so universal. Personally, I'm in favour. I think we can look at where it's legal and see that it doesn't tear up the social fabric. But if you look at France, it is moving away from the recreational argument even as it moves towards medicinal. And



in Germany the medicinal market is growing, but only 25 per cent of people support full legalisation.

Which countries is Maricann targeting for export?

We're already present in Germany and Switzerland, but we have plans to expand throughout Western Europe. Much depends on the support of healthcare and insurance regimes in a country. For example, we have 16,000 patients in Germany now – and we recently spoke at a conference and there were a huge number of

clinicians there interested to hear more. Italy is also very interesting because it has a supportive set-up.

How do you view the UK?

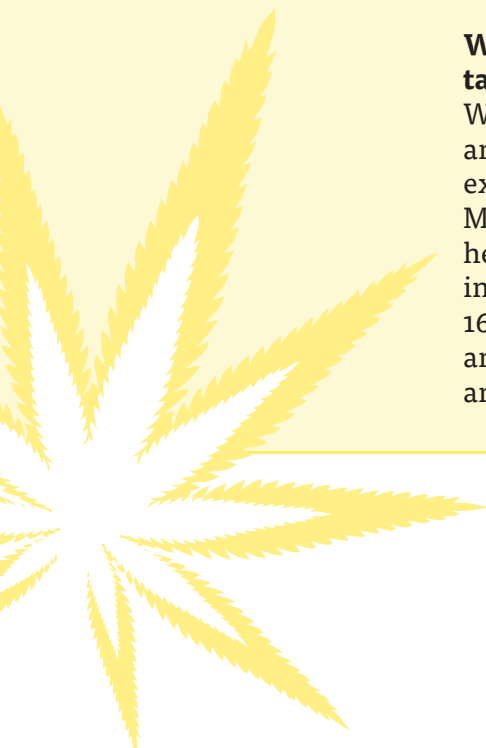
We have a consultant on the ground. It's obviously an interesting market. You have GW Pharma based there, which is the second largest exporter in the world. And now that the legal situation is about to change, we expect to see some exciting new opportunities arise.

What's the biggest challenge for entering new markets?

Local regulations. Every country will have its own compliance guidelines and this makes it risky and expensive to export. Look at California, where they recently had to destroy \$360 million worth of cannabis product because it didn't meet new rules. Having said that, Canadian companies do have a head start and the support of an active investment community. We are well-placed to expand.

Will this head start help Canadian companies to dominate internationally?

I'm sure we'll see a mix in every territory. There will be strong domestic players and JVs. And there will be multinationals with local management teams making local decisions on the ground.



We are preparing for it by bringing in experts from the alcohol industry to help us develop the products that people want.

What's the future for cultivation? Will it become commoditised and move to hotter countries with cheaper land?

Eventually it might. But this won't happen for at least five to seven years. Again, it comes down to regulation. Countries will have strict rules on cultivation – they might insist on indoor growing for example – and this will limit the ability to export to them.

There are multiple sectors within the medicinal cannabis space. Which offer the greatest potential?

Well, we are a vertical business. We're active across the board: cultivation, extraction, distillation, technology. But we are always looking for new opportunities. For example, we bought NanoLeaf Technologies in 2017. That gave us access to VesiSorb, which is a drug delivery technology that address the oil and water solubility issue. Effectively, it means the drug can go to work faster. The technology is extremely promising.

Maricann Group was founded in 2013 in Langton, Ontario. It is a publicly traded company with a federal licence to cultivate and distribute medical cannabis in Canada. Maricann is also active in cannabis distillation, analytics and marketing. It is currently expanding its activities into continental Europe.



Conclusion

Just a few years ago, the legal cannabis 'industry' barely existed. Today, it is undoubtedly one of the investment world's highest-growth sectors.

Regulatory changes in certain US states have certainly inspired this, along with state-backed liberalisation in Canada.

As a result, there is now a flourishing cohort of companies listed on the Canadian exchanges. Meanwhile investors in the US have created a number specialist VC funds targeting cannabis-related businesses.

The European scene is less advanced, even though many countries have passed laws to allow the use of cannabis for medical treatment. Historically, the UK has been among the most restrictive regions. Despite this, it does have cannabis-related stocks listed on its exchanges. Following the expected future re-classification of medicinal cannabis, the floodgates might open, and the UK could become a centre of investor activity.

Without doubt there is still some residual stigma attached to medicinal cannabis. This may slow the progress of the industry in some territories. In general, though, there appears to be an unstoppable momentum around the market.

Here at Memery Crystal, we are committed to working with our clients in the medicinal cannabis market. We also strongly support the patients, families and friends of those who stand to benefit most from the forthcoming reclassification.

While there are still question marks, what is certain is how quickly this sector is moving and how fast the UK government is moving to catch up.

Memery Crystal will continue to promote the legalisation of medicinal cannabis and is the leading UK law firm for companies within this sector.

MemeryCrystal

About Memery Crystal

Memery Crystal has an enviable reputation as a commercial legal practice. We have a strong internal culture, based upon a set of core values, which underpins our individuality, our emphasis on long-term client relationships and our collegiate and entrepreneurial approach.

Our main practice areas include equity capital markets, public and private M&A, corporate finance, real estate, dispute resolution, employment, and tax. We act for a broad range of clients, from multinational companies to financial institutions, owner-managed businesses and individual

entrepreneurs. We offer a partner-led service and pride ourselves on the strength of our client relationships. We set ourselves apart from our competitors through our pragmatism and proactivity.

Memery Crystal is an acknowledged market leader in advising high-growth companies on scaling opportunities, M&A, IPOs and secondary fundraisings, having been ranked among the upper tier of law firms by both Chambers UK and The Legal 500 UK, and we are consistently highly ranked in the AIM Adviser Rankings.



C|T GROUP

About CT Group

Founded by campaign strategists Sir Lynton Crosby and Mark Textor, the CT Group offers a world-renowned brand of successful, research-driven campaigns.

It combines decades of experience in research, political campaigns, strategic communications, media, and corporate intelligence to deliver winning strategies at the highest levels of business and government.

Having worked on successful election and corporate campaigns across four

continents, CT Group understands the need for timely, actionable intelligence, so its clients can focus the right message and resources on their most persuadable 'swing voters' to get the results they want.

CT Group's team of over 80 international, multilingual staff operate from offices in London, Sydney, Canberra, Milan, Dubai and Washington D.C.

Acknowledgements

Memery Crystal would like to thank the following people for their help in preparing this report:

Alex Brooks, Analyst, Canaccord Genuity

Patrick Morton, Partner, Cannabis Invest UK

Stephen Murphy, Managing Director, Prohibition Partners

Gavin Sathianathan, CEO, Forma Holdings

Ben Ward, CEO, Maricann Group

David Young, Barrister, Red Lion Chambers



This is not the end.

For more information please contact either



Nick Davis

Chief Executive

E: nick.davis@memerycrystal.com

T: +44 (0)20 7400 3215



Simon Bastin

Business Development Director

E: simon.bastin@memerycrystal.com

T: +44 (0)20 7400 3217

MemeryCrystal LLP
165 Fleet Street
London EC4A 2DY

T: +44 (0) 20 7242 5905

F: +44 (0) 20 7242 2058

memerycrystal.com