



ALIGN
RESEARCH

EXMceuticals Inc.

28th May 2019

Emerging low-cost operator in the high growth CBD and cannabis extracted ingredients market with the potential to create the world's largest cannabis ingredients supply chain solution

EXMceuticals (EXM) is focused on the sustainable cultivation of cannabis and hemp, from which it will extract and sell pharmaceutical grade ingredients. It intends to be the largest volume, lowest cost producer and supplier of cannabis ingredients and cannabidiol (CBD) products to the pharmaceutical, nutraceutical, therapeutical & cosmetic markets.

International footprint

EXM is headquartered in Canada, with its cultivation operations located in several countries in Central/Southern Africa - Uganda, Malawi & the Democratic Republic of the Congo (DRC). In Portugal, EXM has applied for a license to establish a research lab, a nursery and a center for processing & distribution, with the facility acting as a base for distribution in the EU and North America.

Africa an ideal location for the expansion of cannabis/hemp cultivation

Central Africa provides an ideal location for cannabis cultivation, particularly given the favourable climate, quality of soil and availability of labour. **In the DRC, EXM has been granted first right of refusal over concessions of over 100,000 acres, giving it the potential to create one of the largest cannabis ingredients production facilities in the world.**

Focus on providing high quality ingredients to global players

EXM's target clients will be operators in the pharmaceutical, therapeutical, nutraceutical & cosmetic industries which require large volumes of high quality cannabis derived ingredients, primarily CBD & terpenes, for their products. EXM is looking to offer a secure ingredient supply chain & plans to enter into long-term off-take agreements, as well as explore opportunities to sell in the spot market. The recreational cannabis market will not be targeted.

Legalisation & regulation of cannabis provides huge growth opportunities

Bank of America Merrill Lynch estimates that the total addressable global cannabis market (legal + illegal sales) is currently worth US\$166 billion. This highlights the huge growth potential for industry participants as governments continue to legalise and regulate the market. In addition to this, it estimates that CBD in the three core markets of the US, Europe, and Canada, could represent roughly US\$7 billion today, growing to nearly US\$40 billion by 2032.

Valuation suggests significant upside potential

Our DCF valuation is \$389.1 million, or \$7.65 per share, almost 6 times the current share price. This assumes funding of \$15 million in 2019. Being highly conservative in our assumptions, we see significant upside potential to our valuation. **Accordingly, we initiate coverage of EXMceuticals with a stance of Conviction Buy.**

CONVICTION BUY
Price target – C\$7.65

exm
CEUTICALS

Key data

EPIC	EXM
Share price	C\$1.29
52 week high/low	C\$1.97/C\$0.87
Listing	CSE
Shares in issue	39,230,186
Market Cap	C\$50.61m
Sector	Cannabis

12 month share price chart



Analyst details

Richard Gill, CFA

richard.gill@alignresearch.co.uk

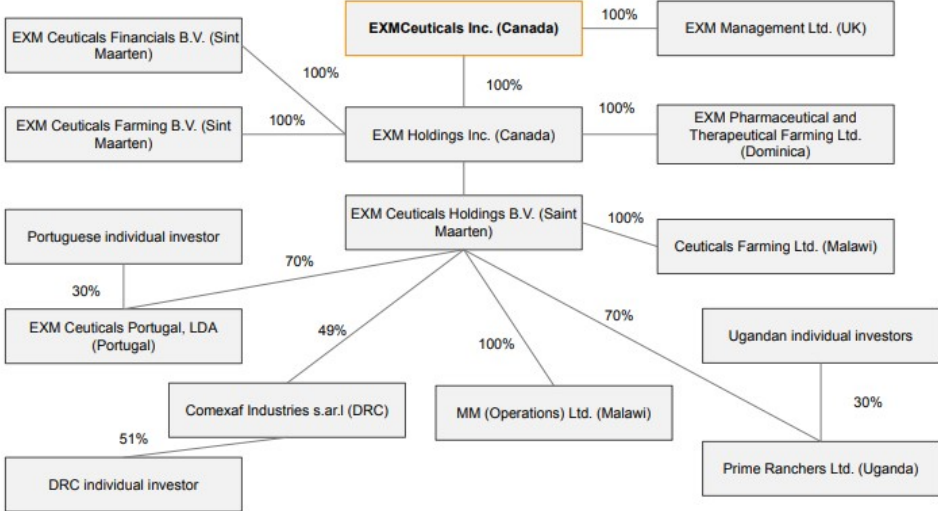
IMPORTANT: EXMceuticals is a research client of Align Research. Align Research own shares in EXMceuticals. For full disclaimer & risk warning information please refer to the last page of this document.

This investment may not be suitable for your personal circumstances. If you are in any doubt as to its suitability you should seek professional advice. This note does not constitute advice and your capital is at risk. This is a marketing communication and cannot be considered independent research.

Corporate Background

EXMceuticals Inc. (EXM) listed on the Canadian Securities Exchange (CSE) on the 31st January 2019 following the reverse takeover of Orofino Minerals Inc. At the same time the company completed a 7:1 share consolidation and a non-brokered private placement which raised gross proceeds of \$2,529,445 via the issue of 3,011,220 shares at a price of \$0.84. To provide further liquidity, at the end of April this year the company listed its shares for trading on the Frankfurt Stock Exchange. April 2019 also saw EXM close a further non-brokered private placement which raised a total of \$3,518,539 via the issue of 2,606,325 shares at a price of \$1.35. The proceeds are to be used for working capital and for advancing the ambitious expansion strategy.

EXM is the 100% owner of EXM Holdings Inc., a Canadian registered company which owns various subsidiaries focused on the sustainable cultivation of cannabis and hemp, and the production of pharmaceutical grade, non-psychoactive cannabis and hemp ingredients for the pharmaceutical, therapeutic and nutraceutical industries. The current corporate structure is displayed below, although we understand the company is currently taking advice on ways to optimise its efficiency, especially for tax reasons.



EXMceuticals Inc. current corporate structure. Source: Company

EXM is headquartered in Vancouver, British Columbia, with its cultivation operations focussed in several countries in Central/Southern Africa, including Uganda, Malawi and the Democratic Republic of the Congo. These countries provide an ideal location for cannabis cultivation, particularly given their favourable climate, quality of soil and availability of labour. In Portugal, the company has applied for a licence to establish a research laboratory a nursery and a center for processing and distribution, with the facility proposed as a base for distribution in the EU and North America. The company also has an office in London.

To further expand its operations, EXM is looking to gain additional acreage in other African countries and has submitted applications and undertaken negotiations with local governments and partners in Ethiopia, Zambia, Eswatini (Swaziland) and Burundi to obtain licences which permit the cultivation of cannabis and hemp, as well as the processing, transformation and export of non-psychoactive cannabinoid ingredients.

Also in Malawi, EXM has recently entered into a non-binding heads of terms agreement to acquire agro-processing business MM (Operations) Ltd. MM has 280 hectares (682 acres) of fully drip-irrigated farms currently focused on mango cultivation, with the deal providing a platform to expand the cannabis extracted ingredients production strategy. The business also has a 4 ha (10 acres) greenhouse nursery capable of growing up to 700,000 plants and a 10,000 m² (107,640 ft²) processing facility.

Market Background

Cannabis

Cannabis is a genus of flowering plants in the family Cannabaceae which is indigenous to and originates from Central Asia. While the number of species within the genus is disputed by botanists, the most recognised species are Cannabis Sativa and Cannabis Indica. The plant is also known as hemp, a strain of Cannabis Sativa, typically when grown for industrial use rather than drug use, although also when cultivated for certain ingredients such as CBD (see below).

While often used interchangeably in certain contexts, the term “marijuana” refers to the dried flowers, leaves and stems of the female cannabis plant which is high in levels of psychotropic constituent THC. Recreational cannabis/recreational marijuana refers to the non-medical usage of cannabis, with users typically attracted to its psychotropic effects. Medical cannabis, or medical marijuana, refers to the use of cannabis and its constituent cannabinoids as a medical therapy to treat disease or alleviate symptoms.

While cannabis has been used in a medical context for thousands of years, in 1961 it was recognised under the United Nations’ Single Convention on Narcotic Drugs as a plant that no longer served any medical purpose. However, research carried out in recent years has found that cannabis and its constituents have a number of medicinal benefits including pain management, treatment of muscle spasms, depression and treatment of nausea and lack of appetite associated with chemotherapy. **While research on the subject remains limited, mainly due to its historic illegality, the discovery of these benefits has led to a growing acceptance of cannabis and its derivatives for medical use.**



Cannabis Sativa

Cannabinoids

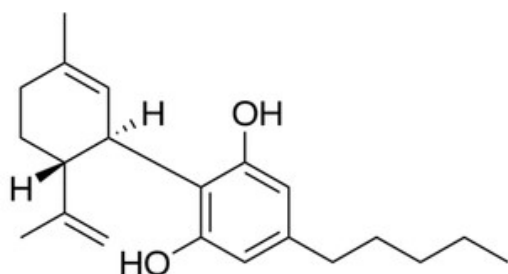
“Cannabinoids” are chemical compounds that are found in cannabis plants (as well as naturally in the human body) and interact directly and indirectly on “cannabinoid receptors” to help maintain the body’s vital functions. Cannabinoid receptors are a class of cell membrane receptors located throughout the body which fall under two types. CB1 receptors are found abundantly in the central nervous system, including parts of the brain responsible for functions including emotion, memory and motor co-ordination. CB2 receptors meanwhile are found in the central nervous, immune and gastrointestinal systems. They are part of the endocannabinoid system, which is involved in a variety of physiological processes including appetite, sex drive, pain-sensation, mood, and memory.

More than 100 cannabinoids have been found in cannabis but by far the two most important are **Δ9-tetrahydrocannabinol (THC) and Cannabidiol (CBD)**. They have the same chemical formula, $C_{21}H_{30}O_2$, but the different arrangement of a single atom means that they have different effects on the body. EXMceuticals’ focus will primarily be on the extraction of these two cannabinoids from its cannabis/hemp plants, with the main focus being on CBD.

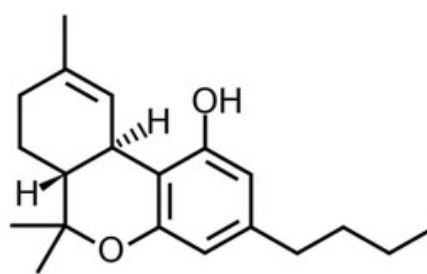
CBD is a non-psychoactive drug that has increased in popularity over recent years as a health supplement, food additive and medicine. It does not cause the high associated with THC as it does not bond directly with the CB1 receptor. According to a 2017 report by the World Health Organisation (WHO), CBD can provide relief for a variety of debilitating conditions including Alzheimer’s disease, Parkinson’s, multiple sclerosis, cancer and diabetic complications, as well as general pain, anxiety and depression. Also, in the case of the drug Epidiolex mentioned below, CBD has been demonstrated as an effective treatment of epilepsy in several clinical trials.

Notable for EXM’s expansion strategy, alongside regulated pharmaceutical products CBD is used in a wide range of consumer products including pills, oils, sprays, gummies, infused beverages, creams and other supplements which are generally marketed as food supplements or cosmetic products. These are high value retail products, with CBD oil for example, at a strength of 10mg/ml, currently commanding values typically around US\$30 - \$50.

THC meanwhile is the principal psychoactive constituent of cannabis which binds directly with CB1 receptors and is responsible for users “getting high.” Aside from its recreational attraction, THC has also been shown to be effective in a range of medical areas including pain management, appetite control, anxiety and the side effects of chemotherapy.



Cannabidiol



Tetrahydrocannabinol

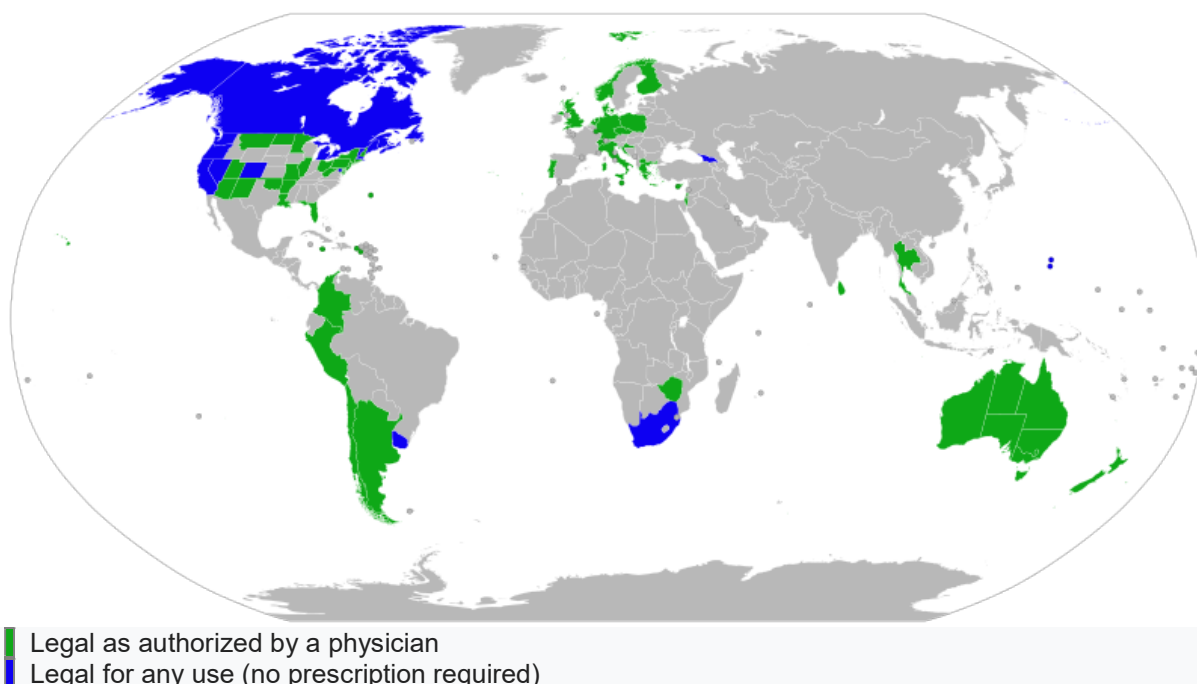
CBD vs THC chemical composition

Regulatory Market Overview

The recreational use of cannabis remains largely illegal around the world, or at least illegal but decriminalised or unenforced. Some notable exceptions include; Canada, which became the first G7 country to legalise recreational cannabis use in 2018; Uruguay, and; as at the date of this report, ten US states. There is a unique situation in the US market where federal laws ban cannabis for both recreational and medical use under the Controlled Substances Act but individual states are able to set their own laws.

The global trend is now firmly towards the liberalisation of cannabis markets, both recreational and medicinal. Governments and lawmakers around the world are being influenced by a number of factors including reported evidence of health benefits, public attitudes towards recreational use, the potential for tax receipts on cannabis sales, the restriction of criminal activity and lower associated policing and judicial costs.

Around 40 countries now permit the production and possession of medicinal cannabis including Argentina, Australia, Canada, Denmark, Israel, Italy and the Netherlands, with medical marijuana broadly legal in 33 US states (see map).



Map of world medical cannabis laws as at May 2019. Source: Wikipedia

While CBD regulations around the world are generally less strict than those surrounding THC, CBD is still a highly regulated substance – in Canada for example, along with many other countries, CBD is illegal unless it comes from a licensed producer. However, CBD sold as a food supplement is less strictly regulated than as a pharmaceutical ingredient. Notably, following the signing of the US Farm Bill in December 2018, CBD produced from hemp with less than 0.3% THC is now legal federally in the US. Other jurisdictions are also moving to distinguish rules for CBD from those for psychoactive cannabis.

Also noteworthy, in June 2018 the US Food & Drug Administration (FDA) approved GW Pharma's Epidiolex, a proprietary oral solution containing CBD at a concentration of 100 mg/ml and the first drug comprised of an active ingredient derived from cannabis, for the treatment of seizures associated with two rare and severe forms of epilepsy. The FDA is now proposing to form an internal agency working group to explore potential pathways for dietary supplements and/or conventional foods containing CBD to be lawfully marketed. Also reflecting a high level change in attitudes towards cannabis regulation, in January 2019 the World Health Organisation recommended to the United Nations that cannabis and associated substances be rescheduled in the international drug control framework to facilitate their trade for medicinal and scientific purposes.

Growth forecasts

Given the current regulatory and legal restrictions, both the (legal) recreational and medicinal cannabis markets worldwide remain at a fraction of their potential size. According to analysts at EvaluatePharma, global sales for all regulator-approved cannabinoid therapeutics were only US\$53 million in 2018. However, this is set to increase rapidly in 2019 and beyond following the approval of Epidiolex which has been forecast by a number of analysts to ultimately achieve over US\$1 billion in annual sales.

In the wider cannabis industry, BDS Analytics forecasts that current legal global cannabis sales are around US\$15 billion. But an April 2019 report from Bank of America Merrill Lynch (BAML) estimates that the total addressable global cannabis market (including legal and illegal sales) is currently worth US\$166 billion. **This highlights the huge growth potential for industry participants as governments continue to legalise and regulate the market.** In addition to this, BAML estimates that CBD in the three core markets of the US, Europe, and Canada, could represent roughly US\$7 billion today, growing to nearly US\$40 billion by 2032.

Of note for EXM's target market, a report released in September 2018 from analysts at Brightfield Group, while admittedly at the higher end of the scale, valued the US market for hemp-derived CBD products at c.US\$591 million in 2018, growing to US\$22 billion by 2022. Analysts at QYResearch Group Global meanwhile are looking for the global CBD oil market to grow to US\$3.86 billion by 2025, from US\$270 million in 2018, at a CAGR of 39.5%.

Supply

On the supply side of the market it is interesting to note that in Canada, considered the world's most advanced jurisdiction in terms of market liberalisation, significant supply shortages are currently being seen. According to a report from Bloomberg on 12th May 2019, Canada is dealing with a nationwide shortage of cannabis that has led some provinces like Ontario to restrict store openings. In the short-term these supply restrictions may continue, with the government recently saying it will now require applicants for cannabis cultivation, processing or sales licences to have a fully built site before they apply.

Meanwhile, sources including CBC News and Marijuana Business Daily are reporting that wholesalers, retailers and consumers are currently experiencing a shortage of available CBD products. Reflecting the shortage, according to Health Canada, the total quantity of CBD imported to Canada rose to 44.9 kg in 2018, up from 30.7 kg in 2017 - Canada allows both the import & export of cannabis for medical or scientific purposes with other countries that also permit this activity.

In contrast to the current situation, analysts at BAML are expecting that in the year 2021 Canada could reach cannabis *oversupply* as new growing facilities come on stream and existing facilities start to deliver full yields. In turn this is expected to drive price deflation and accelerate industry consolidation. However, BAML expects that the effects could be less pronounced should cannabis be approved at a federal level in the US that year, an event that it sees as a key campaign issue for the upcoming 2020 presidential election.

Business Model & Strategy

EXM and its subsidiaries are looking to take advantage of the rapid global growth in demand for cannabis derived ingredients, including those which are being used as a natural alternative to conventional pharmaceutical drugs – CBD in particular. With the reliable supply of ingredients being a major issue in the industry at present, EXM is looking to offer its clients a secure supply chain of cannabinoid ingredients. The focus is on operating large scale cannabis and hemp farms in an environmentally responsible manner, in accordance with the Good Agricultural Practices (GAP) and the Good Manufacturing Practices (GMP), to produce low cost and large volume high quality pharmaceutical grade cannabinoid ingredients for wholesaling in the international market.

To add to its current operations in the DRC, EXM is looking to reproduce this model in at least four other African countries. Africa has been chosen as an ideal location for cannabis cultivation and export due to a number of factors including a highly favourable climate and low labour costs. Located near the equator, the company's areas of focus have c.12-hour days all year round, ideal temperatures, an abundance of rain water and fertile soil, all of which combine to make ideal conditions for outdoor growing. In addition, production costs including licensing, transportation and export, are anticipated to be among the lowest in the world.

Discussions are ongoing with local partners and governmental authorities in Ethiopia, Uganda, Malawi, Zambia, Eswatini (Swaziland) and Burundi. Like in the DRC, the model will be based on the setting up of joint-ventures being in each country, with local partners selected for their expertise in farming, local relationships and track records of managing large number of employees. While it is headquartered in Canada, the company does not intend to grow cannabis in the county largely due to the unfavourable climate which results in a narrow outdoor growing window and expenses involved in investing in greenhouse operations which are required for a year round crop.

Products

The company's principal products are proposed to be comprised of high quality non-psychoactive and psychoactive ingredients, for the export market, with end-products expected to be used by clients in pharmaceutical, therapeutic, nutraceutical and cosmetic formulas products. **The recreational cannabis market will not be targeted.**

EXM intends to initially focus on the development of medicinal products with low levels (less than 1%) of THC and with pharmacologically active levels of CBD. Another area of opportunity comes in the form of extracted cannabis **terpenes**, organic hydrocarbons found in the essential oils of plants. These give cannabis its distinctive aroma, are pharmacologically active and can command wholesale prices of around \$100 per millilitre.

Quality assurance procedures will be designed to meet or exceed industry standards including those set by the GMP (important for clients who require a high quality product) as well as security and recordkeeping rules. They will be designed to ensure that the company can demonstrate and guarantee, to its clients or regulatory bodies, the security of its processes, their reproducibility and the quality of its products at all time.

The overall revenue model (expanded on in the forecasts section) is relatively simple. For each acre of prepared agricultural land an estimated 8,054kg of wet product can be grown. Assuming a 20% wet-to-dry ratio and then 30% of saleable products can be extracted, 483,240 grammes of saleable product can be produced per acre a year. Assuming an average sale price of the extracted ingredients of \$1.58 per gramme then EXM has the potential to earn \$0.76 million in revenues per acre a year assuming 3/4 crops per annum.

Extraction

Following harvesting EXM will extract the oil from the plants, obtain certification of the content and periodically ship the extracted oil to Portugal once an import licence is obtained after stock-piling it in secured storage. EXM's production focuses on the extraction of the THC and CBD molecules, with plant strains used being high in these constituents. EXM does not extract a whole plant oil, but instead the specific THC and CBD molecules which can be sold to clients' in a dry form and used in final products at the require levels.

To extract the saleable ingredients from the cannabis plants EXM has purchased two 48 litre hypercritical CO₂ (carbon dioxide) extraction machines from Careddi Technology Co. Ltd. for processing harvested products from the DRC and Uganda. In contrast to processes which use solvents such as butane, CO₂ based extraction, while higher cost (c.US\$0.1 million per unit), is considered safer, cleaner and less toxic, resulting in a consistent high quality product which is free of unwanted substances such as moulds, spores and pesticides.

The extractors, which have the capacity to process around 50 hectares worth of crop on an annual basis, are located at the Ugandan operations, with the intention being to transport dried crops from the DRC to Uganda for processing before the final ingredients are sent for export. Transportation costs of the final product are relatively low given their high value per gramme, although additional insurance and security costs will be incurred. Extraction operations have commenced at 15 hours per day, 6 days per week, with plans to increase capacity to 20,000kg of raw material, with subsequent increases to meet market demand.

Clients

EXM's target clients will typically be operators in the pharmaceutical, therapeutical, nutraceutical and cosmetic industries which require large volumes of high and consistent quality cannabis derived ingredients on a regular and predictable basis to include in their end products. Here, EXM is looking to offer its clients a secure ingredient supply chain in order to meet their demands and to that end plans to enter into off-take agreements that offer long-term supply relationships. The focus on operating in more than one African country, thus spreading the risk of failure in any one country, will be important in attracting such agreements.

While Canada is not an area of focus for agriculture, EXM recognises the sales potential in the country provided by the increasingly favourable legal environment and high consumer demand. Here, the company is looking to partner with licensed Canadian companies to enable the distribution and sale of its end-products and intends to enter into long-term contractual arrangements with large operators to become their exclusive supplier of medical cannabis oils and other ingredients.

In February 2018 EXM entered into an agreement with Canadian supplements manufacturer GFR Pharma Inc. to form a joint-venture company to distribute and sell cannabis oil products and cannabis extracted ingredients to various countries, including Canada and the United States, upon legalisation. Under the agreement EXM will provide products including cannabis oils and ingredients, and GFR will provide services including importation, storage and selling of the cannabis oil products and ingredients in the various markets when legal to do so. GFR is in the process of applying to Health Canada for a license with regard to the handling of cannabis products and a binding agreement covering the terms of the joint-venture is being finalised with EXM.

Operations

DRC

To date, EXM's main area of operation has been the Democratic Republic of the Congo in Central Africa. In April 2018 subsidiary EXMD entered into an agreement with Comexaf Industries, a company owned by the Kuba Kingdom royal family, for a 70% interest in a cannabis license issued by the DRC, an operating permit issued by the Province of Kasai, DRC, and a land concession of 10,000 acres of organic farmland located in the Kuba Kingdom, Mweka Territory, Kasai Province. There is the potential to increase this to over 100,000 acres which can be repurposed to cannabis/hemp farming at very low cost.

EXM has been granted first right of refusal over the contingent concessions, giving it the potential to create one of the largest cannabis ingredients production facilities in the world. To put the additional acres in context, TSX listed **Canopy Growth (WEED)**, currently the largest listed cannabis company, although with a different business model, has only c.129 acres of indoor/greenhouse facilities in operation at present.

The DRC licence, which permits the commercial cultivation of cannabis and hemp, and processing and export of high-grade pharmaceutical cannabinoid ingredients, was renewed for an additional two years on 3rd December 2018 and the rights have been re-affirmed through provincial and federal level parliament orders that confirms them to be irrevocable. The company proposes to use the licence to cultivate psychotropic and non-psychotropic medical cannabis and export the extracted ingredients to international markets. In due course, EXM also intends to add to the ability to export from the DRC by applying for a licence to sell internally in the country.

Under the terms of the agreement a new subsidiary EXM Pharmaceutical & Therapeutical Farming Kuba s.a.r.l., (EXMKUBA) will be formed in the DRC to be owned 70% by EXMD, 25% by Comexaf and 5% by Ferdinand Minga, the son of the King of Kuba, Kot a-Mbweky III. Comexaf has agreed to transfer the licence and the assets to EXMKUBA within six months of the formation and the start of the DRC project. EXMD and Comexaf have also agreed that 2% of the gross sales of EXMKUBA will be donated to a community development fund to be managed by EXMC and Comexaf, with this expected to be repeated in other countries.

Farm location

The company's DRC project site is located 40km from the village of Mweka from the site's southeast corner and c.30 km from the village of Llebo from the site's northwest corner. The land concession, referred to as Comexaf Domiongo Concession Block I spans 80,000+ hectares of land, with 80% able to be used for timber harvesting and 20% being young secondary forest where the company's project is located. The 10,000 acres used require less than 2% of the concession land and c.10% of the young secondary forest area. This comprises of the land for farming, laboratory space, the extraction plant, ancillary buildings and a village for the employees. Security measures include fencing, CCTV system, monitoring of entry points and a mobile security force overseeing the fields.

In terms of transportation infrastructure, there are two rail routes for the transport of equipment and the export of product. The national railway runs from the Kasai Central province to the province of Katanga, with a Chinese built railway running from Domiongo to Llebo with shipment to Kinshasa and the port of Matadi. The N'Djili international airport has direct cargo shipment capabilities to Canada and Europe.

Farm operations

EXM initially established production on the first 10 acres of land, subsequently increasing its production capacity to 40 acres. Production is expected to be increased regularly to meet market demands, with an initial focus on reaching 200 acres of commercial production. As at the date of this report EXM currently has c.165 hectares (408 acres) cleared and ready to plant.

At the time of its CSE listing, EXM had over 20,000+ cannabis plants growing on the DRC plantation between the growth area and the nursery, with the first harvest completed at the end of 2017 followed by subsequent harvests. To date, harvested products have been dried and stored for the extraction of target ingredients, with a current inventory of c.800 kg of raw product ready to process. Equipment for an increase in processing capacity to 20,000 kg of raw material per month had been ordered for March 2019, with subsequent regular increases expected to meet market demands. The operation currently has around 100 full time employees, with the workforce planned to rise to over 200 by the end of Q1 2020.

Malawi

In February 2019 the company announced that Malawi subsidiary Ceuticals Farming Limited (EXM Malawi) received a letter providing provisional authorisation to proceed with cultivating cannabis and exporting cannabis extracted ingredients. The letter was granted by the Ministry of Finance, Economic Planning and Development of Malawi, together with the Special Projects Committee of Malawi and other government agencies.

Under the provisional authorisation EXM Malawi proposes to cultivate an initial 50 hectares (120 acres) of cannabis and establish the required extraction capacities and ancillary services. It will be operating under the provisional authorisation pending the issuance of a formal license which is expected following the opening of the next session of the Malawi Parliament after the elections planned for 21st May 2019. Upon receipt of the formal licence, EXM Malawi intends to establish over 800 hectares (2,000 acres) of cannabis cultivation and processing capacity in the country, with c.200 hectares (494 acres) currently cleared and ready for planting. As in the DRC, EXM also intends to add to apply for a licence to sell internally in the country.

Acquisition of MM (Operations) Ltd.

On 7th May 2019 EXM revealed plans to significantly expand its production capacity in Malawi by entering into a non-binding heads of terms agreement to acquire agro-processing business MM (Operations) Ltd. Close of the transaction is subject to certain conditions, including the parties entering into a definitive agreement, completion of due diligence and financing.

MM Ltd is based in the Republic of Malawi and has 280 ha (682 acres) of fully drip-irrigated farms currently focused on mango cultivation. The business also has a 4 ha (10 acres) greenhouse nursery capable of growing up to 700,000 plants, a 10,000 m² (107,640 ft²) processing facility and a green field site with access to an additional c.1,700 ha (4,200 acres) of land for further farming expansion, 450 ha (1,112 acres) of which has been certified as organic. The infrastructure at the existing farms has been established with room for further expansion, with capacity to connect the irrigation at two farms (2 km apart), accessing up to an additional c.120 ha (296 acres) of irrigated land.

Both the farms and factory are located in the Salima District, c.90km (56 miles) from the capital Lilongwe and close to Lake Malawi, which provides access to year-round, high-quality irrigation water. The factory itself is located c.25km from the farms and includes 2,000 m² (21,528 ft²) of warehouse space, with significant room for expansion of cannabis ingredients production and CO₂ extraction. The facility is BRC (British Retail Consortium), HACCP, Kosher, Halal, and Rainforest Alliance (Chain of Custody) certified and has passed audits and technical approval to supply a number of global and regional clients, including a global leading juice manufacturer.

Conditions for cannabis cultivation are highly favourable, with Salima having a tropical climate with average annual rainfall of between 800 and 1,200mm per annum, with the wettest months being December to March and temperatures ranging between a minimum average of 20°C and a maximum average of 35°C. The road network connecting Lilongwe to Salima is paved and of high quality, in addition to some gravel access roads to the farms and factory.



MM Ltd. operations. Source: Company

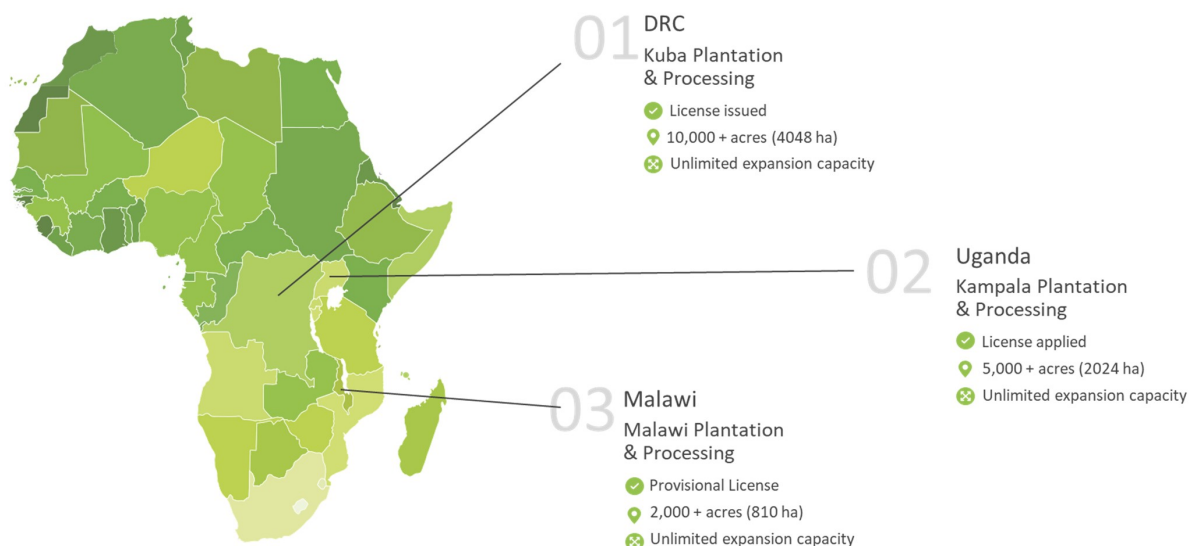
Uganda

In July 2018 EXM entered into an agreement with Prime Ranchers Ltd. (PRL) to form a joint-venture company for the production and processing of cannabis in Uganda, and the sale and export of cannabis oil and ingredients, with EXM acquiring 70% of PRL in December 2018. Under the agreement PRL agreed to obtain the requisite licences from the authorities in Uganda as well as land use rights to establish 200 acres of cannabis cultivation and processing of the cultivated cannabis to extract the cannabinoid ingredients.

EXM intends to obtain a licence under the Uganda Food & Drug Administration to permit the farming, processing, export and import of cannabis based ingredients into Uganda. In November 2018 PRL received import authorisation and a certificate of official approval to import cannabis in Uganda from the National Drug Authority. The land lease agreements were executed on 20th December 2018 for a plantation in the Kampala region, with site visits having taken place by management who completed a formal assessment of the production sites. Preparatory operations have begun, including the clearing and preparation of land for cultivation and establishing the related services for the operation of the farm and the extraction facilities. At present, c.200 hectares (494 acres) of organic farmland are ready to plant and the plantation can be expanded at the company's discretion, in accordance with the licence.

Ethiopia

In Ethiopia, EXM has recently concluded negotiations with the government and the licensing authority, Food, Medicine and Health Care Administration and Control Authority of Ethiopia, for an agro-industrial park, of 4,000 hectares (10,000 acres) encompassing a free trade zone. The authorities have agreed to issue an Agricultural & Industrial Park license to the Ethiopian subsidiary of EXM to allow it to transform the ingredients it produces into retail products for the pharmaceutical and nutraceutical markets. EXM is waiting for confirmation that the licence is ready to be issued from Invest Ethiopia, which acts as the government arm in regards to new investments.



Africa operations locations. Source: Company

Portugal

In line with its proposed expansion strategy, EXM is looking to obtain further licences in European Union countries to allow it to progress its technical and scientific objectives and establish distribution channels and reach its European market revenue targets. To that end, the company is currently in the process of applying for a license in Portugal for the establishment of a laboratory for research, a nursery, and a center for processing and distribution, with the facility proposed to be used as a base for distribution in the EU.

EXM has initiated discussions with university partners, Universidade Nova de Lisboa and Universidade Lusofona, and the government licensing authorities to obtain research & development, import, transformation and export licences. The application is expected to be submitted imminently (May 2019) with receipt expected within around 60 days. Pending receipt, EXMC proposes to proceed with its R&D program, lab work and testing under the licences that its university partners have already obtained.

Management

Chairman

Canada based Chairman John Anderson resigned from the company on 15th May 2019. In view of expected development milestones in Europe and Africa, a new chairman will be appointed shortly to manage the company's global growth strategy.

Michel Passebon – CEO

Mr. Passebon holds a diploma in Agro-Engineering which he received in 1975 in France. He completed the Master's in Project Management at the Université du Québec in 1981. Mr. Passebon is a senior executive and engineer with over 35 years of experience in construction, management and leadership of projects and agencies at the international level. He has worked on long term assignments in a dozen countries, giving him vast international experience, fueling his keen knowledge of people and culture. He was the lead project manager in the development, implementation and operation of a large-scale stevia farming and sweeteners extraction venture with offices in France and farm operations in Angola and Rwanda. Mr. Passebon is fluent in both English and French and also speaks basic Spanish.

Marc Bernier - Chief Strategy Officer

Mr. Bernier has over 20 years of experience in project development, project implementation, and market development. He has been the lead advisor to several sovereign entities to negotiate and obtain Moody's and Fitch credit ratings, bond issuance for sovereign infrastructure projects, and the creation of SPV's to fund and operate sovereign-owned infrastructure companies, acquiring a range of experience in the development and operation of private, public and sovereign large-scale projects.

Christopher Gulka - Chief Financial Officer

Mr. Gulka is a chartered accountant and a chartered financial analyst with over 24 years of business experience, and has been a director and officer of many public companies. Since 1999, Mr. Gulka has been the President of corporate finance firm Working Capital Company, specializing in valuations, due diligence, financings, mergers and acquisitions, investor relations, and management consulting.

Bobby Doyon – Director

Mr. Doyon is a Senior Partner at Joli-Coeur Lacasse law firm, in the business and taxation law departments. He provides support on a regular basis to entrepreneurs in their current operations and specific projects. He negotiates and acts on their behalf with government agencies to obtain the authorizations required to carry out their projects.

Richard Lange - Chief Operating Officer

Over the last 30 years, Mr. Lange has gained plenty of international business knowledge. His specializations cover fields such as project integration, infrastructure projects, venture capital financing, and structured finance. He has extensive experience in investment, business acquisitions, shares placement, joint venture creation, and financing, as well as public and private partnerships. He has financed multiple companies, including Garda, Boomerang, and D-Box, by listing them on the Canadian Stock Exchange, and has acted as investment advisor for several private & public companies.

Financials

EXMceuticals remains in the set up stage of its operations, which is reflected in the most recent financial statements. For the six months to December 2018 (a period before the completion of the reverse takeover of Orofino Minerals) the company made nil revenues and a net loss of \$181,484, which mainly related to consulting fees. **At the period end the balance sheet showed cash of \$185,044, although since the period end the company has completed the two non-brokered placements for gross proceeds of \$6.05 million.** There was also a loan receivable of \$250,000 due from subsidiary EXM Holdings and \$2.3 million of other receivables, with \$2,288,675 of costs paid on behalf of EXM Holdings recorded in this figure. Loans of \$173,770 at the period end are with related parties including directors and are unsecured, non-interest bearing, and have no fixed terms of repayment.

In its CSE listing document the company set out how it planned to use the available funds at the time as below.

Use of funds (CAD\$)	DRC	Uganda	Other sites	TOTAL
Facilities build out	455,000	460,000	485,000	1,400,000
New licences development	0	0	150,000	150,000
Quality assurance & testing programmes	120,000	120,000	0	240,000
Fields & crops	200,000	200,000	0	400,000
Training & Labour	60,000	60,000	40,000	160,000
Operating reserves	0	0	1,650,000	1,650,000
TOTAL	835,000	840,000	2,325,000	4,000,000

Source: CSE Listing Statement

Key Risks

Agricultural risks

By operating in the agriculture sector EXM is exposed to crop failure resulting in lower than expected yields being achieved. This could be caused by a range of factors including unfavourable weather conditions, lack of nutrients, disease and pests. Mitigating these risks, the countries in which EXM operates have been specifically chosen for their favourable climates for cannabis and hemp cultivation. The company will in due course operate across a wide geographic area, which spreads the risk of being exposed to one factor in a particular region. Also, cannabis and hemp plants have a relatively quick growing period, taking only around 3/4 months from seeding to harvest. Therefore, the failure of any crop can quickly be compensated for.

Early stage of operations

EXM remains at an early stage of its business lifecycle and at present is pre-revenue and loss making. While revenue generation is forecast in the coming months, the company has a number of milestones to achieve to successfully deliver its business plan. While the company has recently raised funds via the April placement, we expect that further funds will be required to execute its strategy.

Legal/regulatory risks

The global cannabis industry is highly regulated around the world, with licences required by commercial operators who wish to cultivate, conduct research on, import, export and sell cannabis and its derived ingredients. EXM faces risks in initially obtaining the licences required to successfully execute its business plan and then complying with the requirements of the licences on an ongoing basis. Given its sole focus on the sale of cannabis derived ingredients for its revenues, the failure to maintain the licences would have a material adverse impact on the business. While the global industry is currently seeing a move towards the legalisation and regulation of cannabis and its derived ingredients, which offers opportunities for companies such as EXM, the market is continuously evolving from a legal point of view which poses risks for the company.

Operations in Africa

Operating in Africa brings its own unique set of risks, not least political. Notable for EXM, in the DRC issues surrounding the December 2018 general election seem to have now settled, with Felix Tshisekedi of the Union for Democracy and Social Progress party declared the winner in January and subsequently assuming office as President. The Ebola outbreak currently being seen in the North Kivu and Ituri Provinces in the north-east of the DRC is not expected to have any impact on the company's operations given that the outbreak area is over 1,000km from the company's DRC operations and c.300km from the Ugandan operations.

Competition risk

Given the rapid growth being seen and forecast in the medicinal cannabis market, a number of new companies, both public and private, have entered the market over recent years. Being in its early stages, EXM can expect to see intense competition over the coming years. The company faces competition from rivals with significantly larger financial and non-financial resources so faces challenges in successfully building its market share.

Forecasts

Working with management we have put together a DCF model with a four year time horizon, plus terminal value in order to establish an appropriate value on the shares of EXMceuticals. Our key assumptions are discussed below.

Revenues

Harvested acres

EXM's revenues are a function of total harvested acres multiplied by revenues earned per harvested acre. Regarding the former, EXM is currently in the process of clearing and developing additional acreage at its sites in the DRC, Uganda and Malawi in preparation for planting, cultivation and harvesting. Broadly speaking, with an investment of c.\$1 million a month we forecast that the company will be able to develop an additional 27.4 acres which are planted one month later and harvested after three months of growth. By the end of year 2019 we expect a total of 247 acres to be producing, doubling to 494 in Year 2 and again doubling to 988 in year 3. This is held flat in year 4.

Due to the crop cycle being less one year the number of acres harvested per year can be higher than the number in production. For example, if 1 acre is harvested four times a year then 4 acres have been harvested. Our forecasts for total harvested acres are 192 in year 1, lower than the total in production at the year end as there is a lag between clearing, planting and harvesting. In year 2 we are looking for 988 total harvested acres, 1,976 in year 3 and 2,964 in year 4.

Product value

Revenues per harvested acre meanwhile are a function of sales price multiplied by saleable product produced per acre. Our conservative sales price per gramme of saleable product begins at \$1.58/g in year 1, falling to 75% of this in year 2 at \$1.19, 50% of the year 1 figure in year 3 at \$0.79, before settling at \$0.63 in year 4. The falls in price reflect the effects of increasing global production on wholesale prices.

We calculate that 483,240 grammes of saleable product can be produced per acre a year based on annual wet production of 8,054 kg an acre, a wet to dry ratio of 20% and saleable product extraction ratio of 30%.

Costs

Major costs in the model include marketing & sales, transport, labour & management costs and seed bank, nursery & IP development. We generally assume these costs are a fixed percentage of revenues. We also account for the community development fund which amounts to 2% of gross revenues.

Capex/amortisation

As EXM builds up the infrastructure required for its farming operations major capex items will include extraction equipment, laboratory & ancillary buildings, agricultural equipment and planting, seeding & other start-up costs. These are forecast at c.\$11.9 million in years 1 and 2, \$24.3 million in year 3 as expansion ramps up and zero in year 4. Amortisation/depreciation is forecast at a third of capex in year 1, rising in line with additional capex and the number of acres in production.

Tax

EXM has obtained a number of beneficial tax treatments in the countries that it has obtained a licence. There are 10+ years of import duty exemptions for materials and equipment required to realise projects and a minimum 5-year corporate tax holiday. As a result, our model assumes a zero rate of corporation tax for the 4 year forecast period but assumes a 30% rate in the terminal value.

Other assumptions

Other major assumption in the DCF model include working capital changes at 25% of revenues and growth rate of 3%. We choose to apply discount rate of 18% which we believe adequately reflects the current stage of the business, the execution risks involved, along with other risk factors discussed on page 16. All major assumptions are summarised in the table below.

Per acre	2019	2020	2021	2021
Annual wet production (kg)	8,054	8,054	8,054	8,054
Wet to dry ratio	0.2	0.2	0.2	0.2
Annual dry production	1,611	1,611	1,611	1,611
Extraction ratio	0.3	0.3	0.3	0.3
Ingredients extracted (g)	483,240	483,240	483,240	483,240
\$ per gramme	1.58	1.19	0.79	0.63
Revenues per acre per year	763,519	572,639	381,760	305,408
Revenues per harvested acre	190,880	143,160	127,253	101,803
Harvested acres	192	988	1,976	2,964
Tax	0	0	0	0
Capex	11,944,000	11,849,000	24,281,933	0
Working cap as % of revenues	0.25	0.25	0.25	0.25

DCF model core assumptions table. Source: Align Research

Valuation

The findings of our DCF are presented in the table below.

§CAD	2019	2020	2021	2022
Revenues	36,670,130	141,441,932	251,452,323	301,742,788
Total costs	-23,417,058	-50,847,412	-89,243,746	-97,631,292
Pre-tax profits	13,253,073	90,594,520	162,208,578	204,111,496
Tax	0	0	0	0
NET PROFIT	13,253,073	90,594,520	162,208,578	204,111,496
Add Non-cash	3,981,333	7,962,667	15,925,333	15,925,333
Working capital changes	-9,167,533	-35,360,483	-62,863,081	-75,435,697
Less Capex	-11,944,000	-11,849,000	-24,281,933	0
FREE CASH FLOW	-11,839,793	35,422,370	59,138,230	112,750,465
DISCOUNT RATE	0.18			
Discount factor	1.1800	1.3924	1.6430	1.9388
NET PRESENT VALUE	-10,033,723	25,439,795	35,993,353	58,155,436
4 year NPV	109,554,860			
Terminal value	279,533,795			
TOTAL	389,088,655			

Our model shows that EXM's business model looks to be potentially very highly profitable, with the large acreage combined with low operating costs in Africa delivering operating margins in the mid to high 60 percent levels from year 2. Discounting the forecast cashflows back to 2019 using a discount rate of 18%, results in a net present value for the initial four years of \$109.55 million.

With the company's agricultural assets being expected to produce over a long-term time horizon we also add a terminal value to our model. Here we account for a 30% corporation tax rate in later years and assume a 3% growth rate. **The terminal value is \$279.5 million, which added to the initial four year NPV equates to a total NPV of CAD\$389.09 million.**

However, with a negative free cash flow of \$11.84 million in 2019 we expect that the company will require an additional fundraising in order to meet our forecasts. To err on the side of caution we are assuming that an additional \$15 million is raised in 2019 at the current share price of \$1.29, which would increase the share count by 11,627,907 new shares. **Added to the current total, this suggests a price of \$7.65 per share - some 493% above the current price.**

Discussion

While our DCF model suggests a valuation that is almost six times the current share price we believe that our model remains conservative for three main reasons.

First, our forecasts for producing acres stop at 988 in year 3. We note that the company has sufficient acreage in the DRC alone to meet this forecast without considering the other African operations. Beyond this, subject to adequate financing, EXM has the potential to expand its acreage by c.10 times this amount, again in the DRC alone. What's more, EXM currently has c.1,650 acres cleared and ready to plant, which already exceeds our year 4 expectation for producing acres.

Second, we assume a price per gramme of saleable product at prices ranging from just \$0.63 to \$1.58. We note that these figures are extremely conservative given that CBD alone (without considering THC or terpenes) currently commands prices of around \$7 a gramme wholesale for amounts over a tonne. **To illustrate the upside potential here, if we instead assume respective prices per gramme of \$4, \$3, \$2 and \$1 for the four years, the total NPV rises to \$1.11 billion, or \$21.86 per share.** Additional product could also be derived from plans to process waste material.

Finally, as the company delivers on the business model, we expect that the discount rate could reasonably be reduced. To illustrate, the valuation at a 16% discount rate is \$8.17 per share.

Peer Analysis

While there is a wide selection of companies in the global cannabis peer group, direct comparison to EXMceuticals is a difficult task for several reasons. As the industry remains in its early stages most companies remain loss making so can not accurately be compared on an earnings basis. What's more, the various constituents operate in different sectors of the cannabis value chain, including cultivation, ingredients extraction, wholesale, retail, medicinal and recreational, and thus have different inherent risks, business models and margins.

While not a perfect comparison, we have endeavored to highlight EXM's current valuation against a range of select peers in terms of price (market cap) per available acre. For the available acres figure we have used a range of public sources including company filings and news releases but note that the figures are subject to frequent change. **Our analysis shows that EXM is valued at the very bottom of the range, at just \$0.03 million per available acre, suggesting it is significantly undervalued.**

Company	Market cap (\$CAN m)	Production assets	Acres	Price/acre (\$CAD m)
EXMceuticals	50.61	Outdoor	1,650	0.03
PharmaCielo	1,104	Greenhouse/indoor	343	3.22
ICC Labs	290	Outdoor/greenhouse/indoor	573	0.51
Dragonfly Biosciences	128	Outdoor	1,038	0.12
Tilray Inc.	6,246	Indoor/greenhouse	21	297.45
Aphria Inc.	2,344	Indoor/greenhouse	25	93.76
Cronos Group	6,846	Indoor/greenhouse	8,162	0.84
Green Organic Dutchman	1,070	Indoor/greenhouse	175	6.11

Source: Align Research

Of note in the analysis are two companies which are currently of a similar size to EXM.

In November 2018 Aurora Cannabis completed the acquisition of **ICC Labs inc.** a company which has over 70% market share in Uruguay and licences in Colombia for the production of medical cannabis. In terms of facilities ICC was at a similar stage at the time of acquisition as EXM could be by the end of the current year, with two greenhouse facilities operational, three outdoor grow sites with a potential total area of over 800 acres and two facilities under construction - 124,000 square feet of greenhouse production in Colombia and 1,000,000 sq ft in Uruguay focused on the development of pharmaceutical grade products derived from cannabis and hemp. Notably, the \$290 million acquisition price compares to EXM's current market cap of \$54.92 million. In addition, private UK company **Dragonfly Biosciences**, with circa 420 hectares (1,038 acres) in Bulgaria, is rumoured to be seeking a £75 million (\$128 million) buy out.

Conclusion

To date, EXMceuticals has operated under the radar as a public company, not seeing the fanfare associated with a number of other high profile cannabis listings. As such, the valuation has remained low, especially in comparison to other industry peers. **We therefore see the current share price as an excellent opportunity to buy into the stock ahead of the expected expansion of commercial operations, with the company's current agreements providing the opportunity to create the world's largest cannabis ingredients facility.**

Noting that there are several hurdles to overcome before our forecasts can be met, including obtaining the relevant licences, offtake agreements and financing, we believe that these risks are more than adequately accounted for in our model. Should the business plan be executed successfully we see significant further upside to our valuation. **We therefore initiate coverage of EXMceuticals with a target price of \$7.65 and a stance of Conviction Buy.**

DISCLAIMER & RISK WARNING

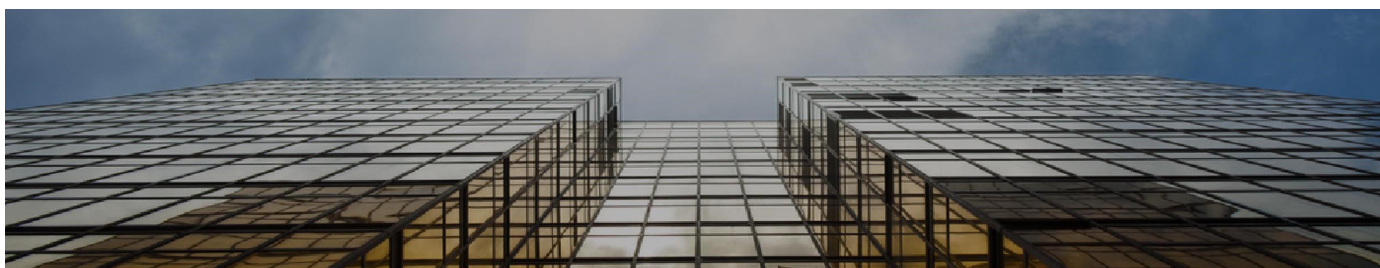
It is the policy of ALIGN Research to only cover companies in which we have conviction in the investment case. Our “Conviction Buy” recommendation is derived from our conviction in either taking equity as payment for our research services, or applying our fee to the purchase of equity in a covered company whilst absorbing the cash cost of our freelance analyst payments. EXMceuticals is a research client of Align Research. Align Research owns shares in EXMceuticals. Full details of our Company & Personal Account Dealing Policy can be found on our website <http://www.alignresearch.co.uk/legal/>

ALIGN Research has made every reasonable effort to ensure the accuracy of the information in our research reports and on our website, although this can not be guaranteed. Our research reflects the objective views of our team of analysts. As we actively seek to take the majority of our fees by the way of equity payment in the companies we cover, we believe that we are aligned with both investors and the subject company. Additionally, we only write about those companies that we have conviction in. However, as a consequence of this alignment, our vested interest is in an increase in value of the subject company’s equity. As such, we can not be seen to be impartial in relation to the outcome of our reports.

ALIGN Research has both a personal & company dealing policy (covering staff & consultants) in relation to the dealing in the shares, bonds or other related instruments of companies that we follow & which adhere to industry standard personal account dealing (PAD) rules. ALIGN Research may publish follow up notes on these securities/companies but has no scheduled commitment and may cease to follow these securities/companies without notice. Our reports are not subject to any prohibition on dealing ahead of their dissemination by staff members.

Your capital is at risk by investing in securities and the income from them may fluctuate. Past performance is not necessarily a guide to future performance and forecasts are not a reliable indicator of future results. Nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell securities by us. As we have no knowledge of your individual situation and circumstances the investment(s) covered may not be suitable for you. You should not make any investment decision without consulting a fully qualified financial advisor. The marketability of some of the companies we cover is limited and you may have difficulty buying or selling in volume. Additionally, given the smaller capitalisation bias of our coverage, the companies we cover should be considered as high risk.

ALIGN reports may not be reproduced in whole or in part without prior permission from ALIGN Research. This financial promotion has been approved by Align Research Limited, which is authorised & regulated by the Financial Conduct Authority. FRN No. 768993. © 2019 Align Research Limited.



Align Research Limited
7 Moorhead Lane
ShIPLEY
UK
BD18 4JH

Tel: 0203 609 0910
E: info@alignresearch.co.uk