



Novel Drug Delivery Technologies

CORPORATE PRESENTATION AUGUST 2020



Forward Looking Statements

Except for the historical information contained herein, the matters discussed in this PPT release are forward looking statements within the meaning of the federal securities laws. Important factors could cause our actual results to differ materially from those contained in the forward looking statements including our growth strategies, our ability to successfully and economically develop Oral Thin Films, anticipated trends in our business, our liquidity and ability to finance our development activities, market conditions in the industry, our ability to make and integrate acquisitions, the impact of governmental regulation and other risks more fully described in the company's filings with the Securities and Exchange Commission. Forward-looking statements are typically identified by use of terms such as "may," "will," "expect," "anticipate," "estimate" and similar words, although some forward-looking statements may be expressed differently. All forward looking statements contained in this release, including any forecasts and estimates, are based on management's outlook only as of the date of this release, and we undertake no obligation to update or revise these forward looking statements, whether as a result of subsequent developments or otherwise.



PHARMA
drug delivery systems

Novel Drug Delivery Technologies

Meeting underserved needs in large target markets

Successfully **commercialized** first product

Clinically proven

High bioavailability with onset of action <15 seconds

Strong **IP** portfolio

Multiple patents

Applied in over **50 countries**

Applicable in broad range of industry verticals

Developing **new product lines**

Multiple active ingredients

Targeting **pharmaceutical, nutraceutical and cannabis markets**

Set for **International Expansion**

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The Product – CTT's Sublingual Dissolvable Wafer

CTT has developed a **patented** oral fast-dissolving drug delivery system, a thin film, **dissolvable wafer**, suitable for the administration of a wide variety of active ingredients for medical, wellness and recreational purposes.

Our wafer is placed on the top or floor of the tongue, is retained at the site of application, and releases its active ingredient **within seconds** via the oral mucosa. This enables near instantaneous crossover into the bloodstream, eliminating the hepatic first pass effect, ensuring **high bioavailability** and a **rapid onset of action**.

- CTT uses a novel form of encapsulation of the active ingredient, comparable to a soap bubble.
- Upon administration on site, these 'bubbles' burst, delivering the active ingredient to a buccal or sublingual site where transfer to the bloodstream occurs.
- **Compared to** chemical matrices used in other strip form products, CTT's technology delivers **significantly faster** transfer of the active ingredient into the bloodstream
- **Constituents** other than active ingredient are **GRAS¹ certified** and used widely in pharmaceuticals and natural health products

¹GRAS stands for Generally Recognized as Safe, an official U.S. FDA designation that a **chemical or substance added to food is considered safe by experts**, and so is exempted from the usual Federal Food, Drug, and Cosmetic Act (FFDCA) food additive tolerance requirements

Our Wafer Meets Major Market Needs

- **Accurate and consistent dosing** precisely determined and consistent potency of the active ingredient, a critical advantage over most other form factors
- **Rapid onset** CTT's strips dissolve quickly in the oral cavity (**5-15 seconds**), with the active ingredient rapidly absorbed into the bloodstream
- **Increased bioavailability** the active ingredient, once absorbed, can bypass the liver's first-pass effect, improving therapeutic outcomes and efficacy through improved bioavailability
- **Safe** smoke-free delivery bypassing lungs and digestive system
- **Ease of use** taken orally but do not require water or swallowing
- **Increased adherence** the ease of use and discrete administration can help increase positive adherence outcomes
- **Large target markets** suitable for a wide range of applications in medical, wellness and recreational markets

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Clinically Proven

Human Trials on Pain Relief

Objectives

- Determine the efficacy (effect, or bio-availability) of wafers containing THC/CBD as the active, pain relieving agents.
- Assess the safety, tolerability and the side effects of progressive doses
- Determine time to onset of action

Renowned institution

- The trials were conducted at the University of Spain Medical Center

Study Outcomes

High bioavailability

- The dose ranging studies indicated that bioavailability is comparable to intravenous injection or vaporized dosing

Safe

- No serious adverse events observed during the trials even using higher doses of THC and CBD
- The strip constituents, other than the active ingredient, are all GRAS certified

Rapid Onset of Action

- Effective concentrations measured in blood within 5-15 seconds

Efficacy

- Significant reduction in pain



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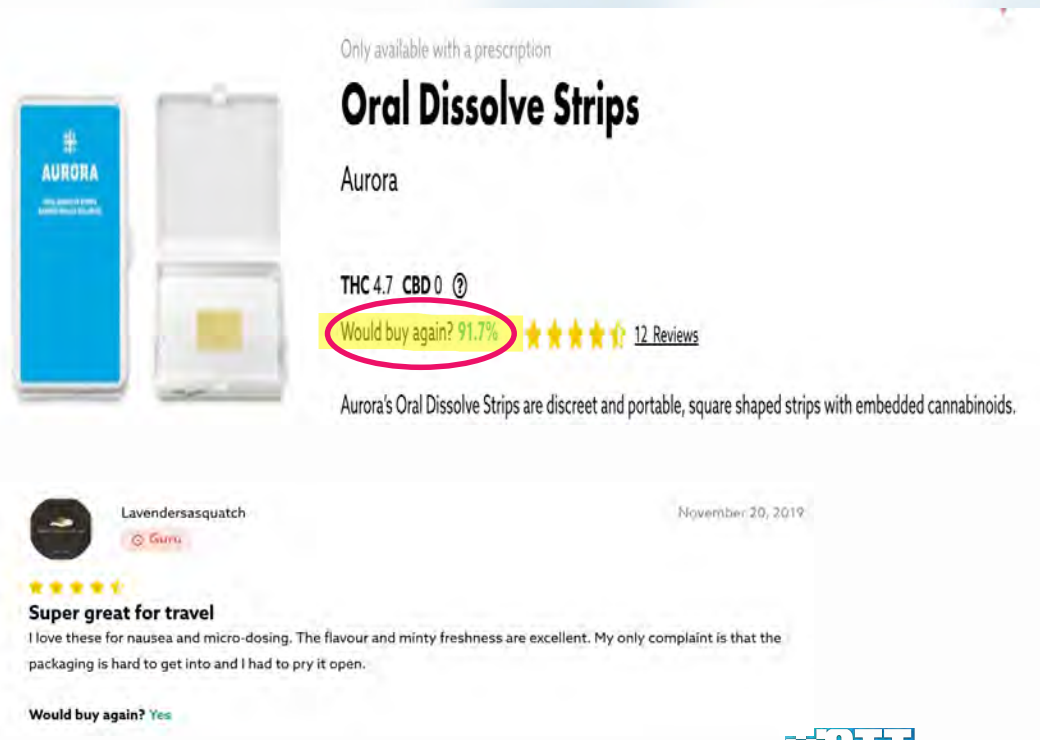


Commercially Proven Cannabis Infused Product

FIRST RUN
SOLD OUT¹

¹Introduced under Aurora Dissolve™ brand, marketed to Aurora registered medical patients only, reflecting a **penetration rate of approximately 4%** in less than 60 days

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Only available with a prescription

Oral Dissolve Strips

Aurora

THC 4.7 CBD 0

Would buy again? 91.7% ★★★★★ 12 Reviews

Aurora's Oral Dissolve Strips are discreet and portable, square shaped strips with embedded cannabinoids.

Lavendersasquatch November 20, 2019
Guru

★★★★★
Super great for travel
I love these for nausea and micro-dosing. The flavour and minty freshness are excellent. My only complaint is that the packaging is hard to get into and I had to pry it open.

Would buy again? Yes

Sublinguals Command Price Premium

“Users of tinctures, sublinguals, capsules and topicals are often categorized as health and wellness consumers, and, in general, they’re willing to pay a higher price for those products because they’re marketed with having specific effects – pain relief, sleep or relaxation, for example.” (Liz Connors, Director of Analytics, Headset (market data research organization; <https://mjbizdaily.com/chart-price-per-milligram-of-thc-varies-between-cannabis-infused-products/>))

Price per Milligram of THC in Non-Inhalable Cannabis Products in California, Colorado, Nevada & Washington state



Source: Headset

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Strips command a premium (retail pricing)

Ontario Price Comparison	US\$/mg	US \$ Pricing Comparables	Price per mg
Vapes	0.09	CBD Strips - Elevate	\$0.15
Oil	0.06	CBD Strips - FXCBD	\$0.20
Spray	0.07	THC Strips - Aurora (CTT)	\$0.48

Market Dynamics Require Innovation

Increasing recognition of health benefits is driving demand for new medical and wellness products

- Growing body of **science-based evidence** supports medical efficacy of products such as cannabinoids, psychedelics and natural health products, resulting in **strong market growth**
- **Concerns** around current delivery mechanisms
 - Health (e.g. smoking & vaping)
 - Limited bioavailability
 - Long duration to onset of action
 - Inaccuracies and inconsistencies in dosing
- Similar dynamics and concerns are valid for the delivery of active ingredients such as nicotine, pharmaceuticals, vitamins and other food supplements

Market dynamics
address by CTT's
innovative
delivery of active
ingredients

Medical Applications

A growing body of anecdotal and scientific evidence supports the efficacy of certain natural ingredients in the successful treatment of symptoms related to major medical indications, such as:

- Pain Management
- Sleep
- Anxiety
- Depression
- PTSD
- Epilepsy
- Chemotherapy
- Migraines
- Glaucoma
- Multiple Sclerosis
- Tourette's & OCD
- ADD & ADHD
- IBS & Crohn's Disease
- Alzheimer's
- Eating disorders

Potential **medical active ingredients** for strip delivery

- Pharmaceuticals
- Cannabinoids
 - THC
 - CBD
 - Balance
- Psychedelics
 - Psilocybin
 - Ibogaine
 - Ketamine
 - DMT (ayahuasca)

Accurate (micro) dosing

Rapid onset of action

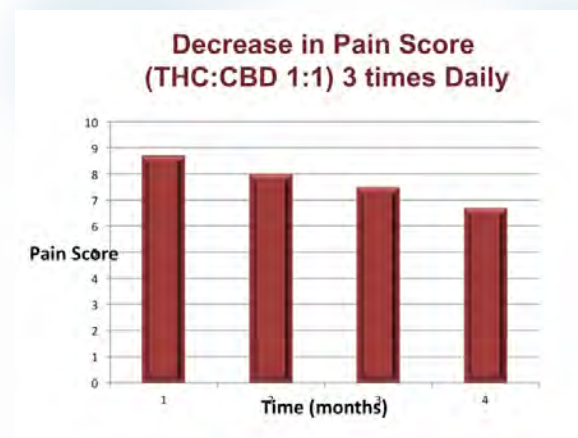
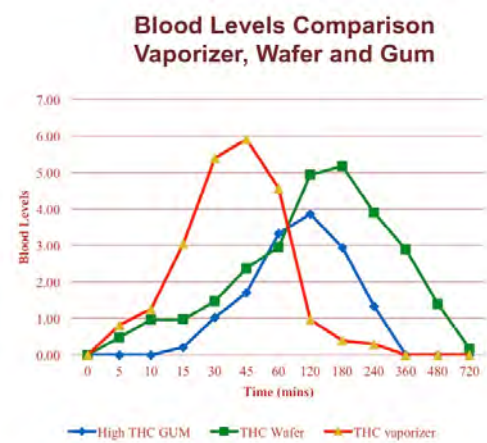
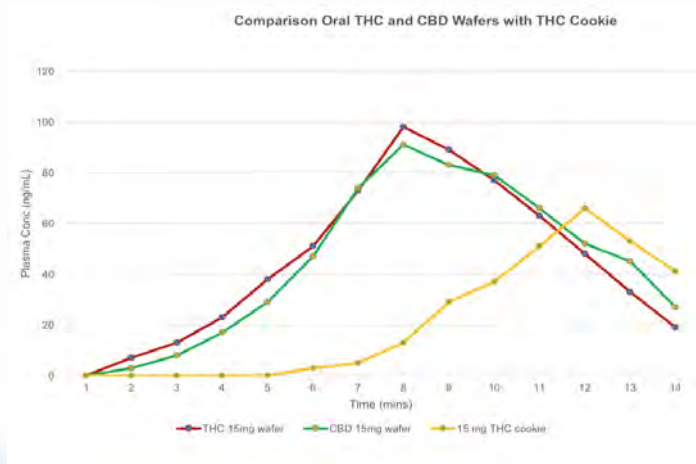
Bypasses kidneys and liver, reducing stress on the body

Discrete administration

Dissolves: ideal for those who have difficulties swallowing

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Clinical Trial Data



Patent Protected Process & Products

Patent Series #1 - Opioids Patents:

- US 8623401 ISSUED
- Canadian 2624110 ISSUED
- The patent covers orally administrable wafers comprising a film forming agent that forms a gel, and also the process of making the wafers by exposing the gel to heating and cooling cycles.
- Use of the wafer delivery mimics an injection path with uptake speed comparable to intravenous administration.

Patent Series #2 - Cannabinoid/Steroid:

- Canadian 2910206 ISSUED
- US 14921501 ISSUED
- This patent broadly covers Cannabinoids (all natural and synthetic brands) and corticosteroids combined together in any type of composition (wafer, tablet, lozenge, capsule, ointment, solution, etc.). This composition exhibits a high dissolution rate and is useful in treating a variety of indications in humans and animals.

Patent Series #3 - Nanonized Cannabinoids:

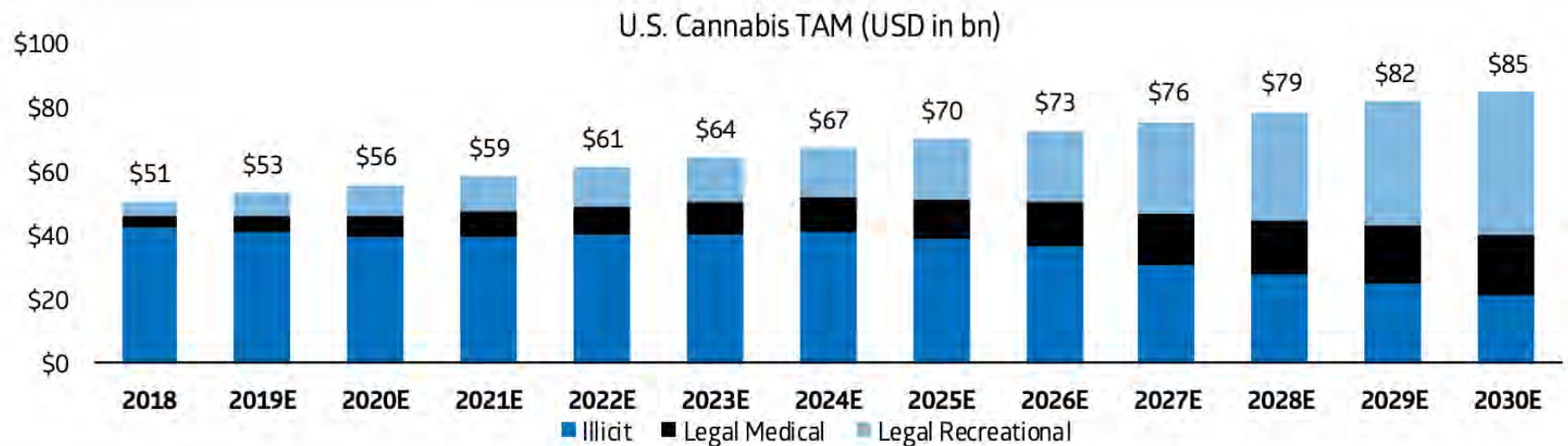
- US 15059444 Pending
- Canadian 2922959 ISSUED
- PCT Pending PCT / US2017/ 15059444 (world Patent- (151 countries)
- This patent covers an orally administrable composition comprising a film forming agent, and is used to effectively deliver a nanonized therapeutic. This allows the ready absorption of otherwise poorly soluble active ingredients (e.g. pharmaceuticals). The main objective is the delivery of large therapeutic molecules, such as proteins or cannabinoids.

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The Opportunity - Cannabinoids

The Trend: cannabis **incidence** in the U.S. increased to **15.8%** in 2018, up from 11.6% in 2012 (Cowen)

Figure 2 Our U.S. TAM in 2030 Assumes Average Past Year Incidence Levels Will Grow ~60 bps Per Year



Source: NSDUH, State Data, U.S. Census, and Cowen and Company

The Cannabinoid Opportunity - CBD

10% of U.S. population
projected to consume CBD by 2024

\$20 billion
2024 U.S. CBD market size
49% CAGR

53% of CBD in the U.S. is consumed as
ingestibles

50% of consumers cite convenience as their
number-one reason for choosing ingestibles

33% of people state manufacturers need to do a better job with **crafting consistent doses**

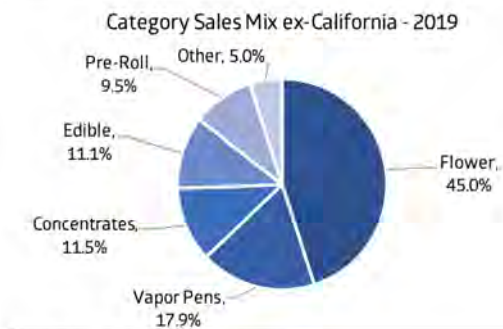
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The Cannabinoid Opportunity – Form Factors

- While dried flower remains the dominant form factor, other delivery mechanisms are gaining ground
- Especially in the world's largest legal cannabis market - California – non-combustible form factors are gaining ground on flower
- The vape contamination scare in 2019 resulted in a temporary decrease in vape sales. While sales of vape products have since increased, consumers are actively looking for alternative delivery mechanisms that do not involve inhalation

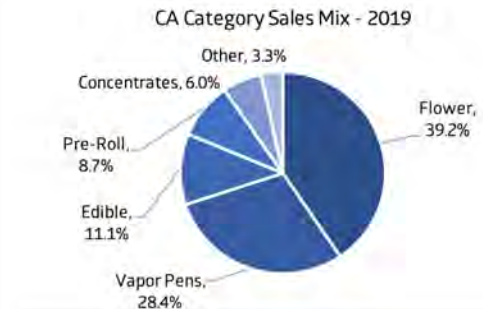
Market share by form factor
in the U.S. and California

Figure 29 Flower Is the Most Popular Form Factor in Tracked States...



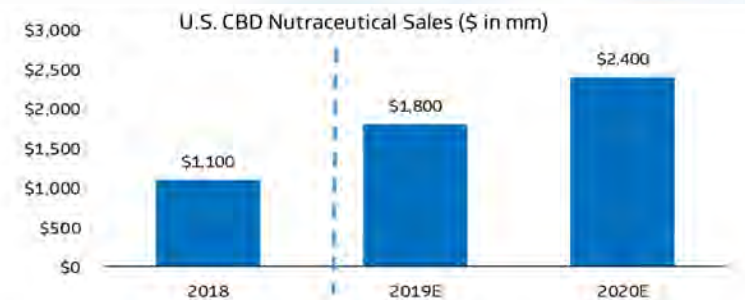
Source: Headset and Cowen and Company

Figure 30 ...Yet It Under-indexes in CA Relative to Other States

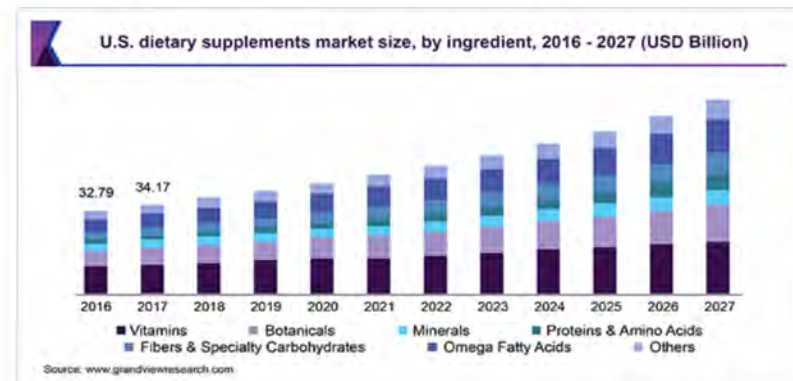


The Opportunity - NHPs

- A greater focus on prevention, fed by rising health concerns, is resulting in changing lifestyles and dietary habits, driving demand for dietary supplements and other wellbeing products.
- “The **global dietary supplements** market size was estimated at **\$123.28 billion** in 2019 and is projected to expand at a **CAGR of 8.2%** during the forecast period..” (<https://www.grandviewresearch.com/industry-analysis/dietary-supplements-market>)
- **CBD-based nutraceutical** products are anticipated to reach **\$2.4 billion** in U.S. sales in 2020 (Cowen)
- According to the American Botanical Council, **herbal supplement retail sales were \$6.4 bn in 2014**, posting the 11th year of consecutive growth. Between 2004-2014, the herbal supplement category grew its revenues at a ~4.2% CAGR (Cowen)
- The global melatonin market is anticipated to grow to \$1.5 billion by 2021 (Statista 2020)



Source: Cowen and Company



NHP Applications

The ease of use, rapid onset of action, high bioavailability of the active ingredient, zero calorific content, small size and discrete administration provide key advantages in the following NHP and related applications

- Melatonin
- Vitamin supplements
- Omega 3 acids
- Current form factors and their deficiencies
 - Vitamin gummies
 - Contain sugar (calories, dental issues)
 - Sticky
 - Uptake through ingestion => require digestion => reduced bioavailability
 - Pills
 - Limited bioavailability
 - Requires higher dosage => more expensive and/or lower margin
 - Liquids
 - Uptake through ingestion => require digestion => reduced bioavailability

CTT's strips offer

High bioavailability

Ease of administration

Zero calories

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The Opportunity - Pharmaceuticals

- Medical experts are embracing **lower dosages with quicker absorption** producing more effective and safer results. This reduces stress on the liver, stomach, etc.
- Many patients experience **difficulties swallowing**, in particular children and the elderly, which CTT's strips successfully address.
- Accurate micro-dosing to ensure optimal efficacy and a consistent patient experience
- With a stronger focus on the effectiveness and efficiency of treatments, adherence management has become a hot topic in the healthcare sector. The ease of use and discretion that **strips** offer are key factors to **help increase adherence**.

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A recent research study by **Transparency Market Research** found that the global market for **thin film drug manufacturing** will likely become worth around **US\$16 bn** by 2024.

Among the different types of thin film drug manufacturing, the **oral thin film is expected to gross maximum revenue** in the next few years.

The segment is expected rise at a **CAGR of 18.3%** to 2024

(source: <https://www.biospace.com/article/thin-film-drug-manufacturing-market-oral-thin-films-to-remain-popular-due-to-ease-of-handling/>)

Products

CannaWafe – delivery of cannabinoids for medical purposes. The CannaWafe was successfully introduced onto the market with Aurora Cannabis under the trademark Aurora Dissolve Strips™

Other products under consideration

MedWafe - this wafer can delivery a variety of pharmaceutical ingredients, especially useful in pain management and other applications where rapid onset of action is critical and/or where patients have difficulties swallowing.

VitaWafe – delivery of zero-calorie vitamin supplements with high bioavailability

NicoWafe – delivery of precisely dosed nicotine with rapid onset of action

MelaWafe – sleep regulation through melatonin delivery

VetWafe – easy to administer medical and wellness ingredients for pets

PsiloWafe – delivery of accurately and consistently dosed psilocybin

Many others

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Growth Strategy

PRODUCT DEVELOPMENT

Leveraging IP to develop new SKUs, including CBD, vitamin, melatonin, nicotine and pharmaceutical infused strips

Assessing commercial applicability of new IP opportunities

DISTRIBUTION

Expanded business development capabilities with three new appointments to pursue partnership strategy and drive growth and expansion into new industry verticals and jurisdictions

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Ease of Retooling Fuels Product Diversification

- The production of CTT's strips can be done through a manually or automatically controlled process.
- Capacity of the automated process is approximately 10 times that of the manual set up, with operating costs proportionally lower
- Key advantage of the automated set-up is that it is exceptionally easy to switch between active ingredients. No (major) retooling is required, just the inputs are varied and the packaging adapted.
- Consequently, one set-up can produce multiple SKUs across multiple active ingredients.

Limited retooling required in switching between different SKUs and active ingredients provides flexibility to allocate production time to a **broad portfolio of products**



Thank You

