iX Biopharma Ltd

Presentation for Phillip Securities – Jan 2020

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AGENDA



- 1) Company Overview
- 2) WaferiX Technology
- 3) Products Pipeline
- 4) Summary



COMPANY OVERVIEW

Company Profile



- Specialty pharmaceutical company with expertise in drug delivery systems
- > Developed a proprietary sublingual wafer delivery, WaferiX
- Fully integrated business
 - ✓ Drug discovery > Clinical studies > Regulatory > Manufacturing > Sales
 - Competitive advantages through lower cost of sales, better operating efficiencies & quality control, speed to market & IP protection
- Business strategy
 - Leverage iX's sublingual wafer technology, WaferiX to better deliver pharmaceutical compounds to address unmet medical needs
 - \checkmark Commercialise, either on our own or in partnership with third parties

Our Facility in Croydon, Victoria Australia





- Modern facility with state of the art equipment; land area 12,000m², build up 3,006m²
- > Manufacturing facility, iX Syrinx Pty Ltd is TGA approved and cGMP compliant



Corporate Structure



- SGX code: SGX:42C
- Incorporated: January 2008
- Listed: July 2015
- Shares issued: 648.9M

- Share price: \$0.22¹
- Market capitalisation: S\$143M¹
- Major shareholders:
 - 1) Eddy Lee 28.1%
 - 2) Anson Properties 9.6%
 - 3) Narulla & Associates 7.0%



WAFERIX TECHNOLOGY



String Assistant

Waferix, iX's Drug Delivery Technology

- WaferiX is a novel, patented, non-invasive and fast-dissolving sublingual wafer that delivers active compounds safely via the oral mucous membrane located under the tongue
- > Proven and validated technology Australian TGA approval received for Wafesil



- Fastest way to get drug into the system
- X Invasive / Expensive
- X Hospital setting



- ✓ Convenient / Inexpensive
- 🗙 Low bioavailability
- X Variability





- Disintegrates within 1 minute
- Rapid absorption; faster therapeutic action and predictable effect
- Increased bioavailability of actives
- \checkmark

Convenient and easy to use





LumeniX glutathione wafer vs glutathione ODT in the market



WaferiX	Oral Dispersible Tablet			
Patented technology, fast disintegration	Generic, slower disintegration			
Release of actives – instant & complete	Release of actives – slower & incomplete			

WaferiX, Sublingual Wafer Technology



- Patented sublingual wafer formulation
- Proprietary freeze-drying manufacturing process
- > WaferiX enables rapid disintegration, instant release of active for immediate sublingual absorption:
 - ✓ highly porous microstructure
 - ✓ homogeneous dispersal of active ingredient(s)
 - \checkmark amorphosity of API retained
 - \checkmark non-ionic matrix
- Increased bioavailability of actives

Oral v Sublingual Absolute Bioavailability							
Route of Administration Ketamine ¹ Buprenorphine ² Fentanyl ³							
Oral	10-15%	10-15%	30-35%				
WaferiX Sublingual	29%	45%	79%				

Ideal for prolonging drug life cycle:

✓ Off-patent drugs (as Supergenerics) ✓ New superior products at lower risk and cost

^{1.} The absolute bioavailability of racemic ketamine from a novel sublingual formulation, British Journal of Clinical Pharmacology, 2013

^{2.} The Pharmacokinetics and Local Tolerability of a Novel Sublingual Formulation of Buprenorphine, Oxford Journal on Pain Medicine, 2017

^{3.} A Phase I Pharmacokinetic and Bioavailability Study of a Sublingual Fentanyl Wafer in Healthy Volunteers, Anesthesia and Analgesia, 2012



PRODUCTS PIPELINE

WaferiX Products





Competitive advantages of sublingual wafer;

 \checkmark fast disintegration \checkmark rapid onset of therapeutic action \checkmark easy to use

Pharmaceuticals Pipeline



PRODUCT/PROJECTS	PRECLINICAL	PHASE I	PHASE II	PHASE III	REGISTRATION			
Wafesil	Male Erectile Dysfunc	AUS TGA						
C11					AUS TGA			
Silcap	Male Erectile Dystund	Male Erectile Dysfunction						
Wafermine	Acute Moderate to Se	evere Pain						
BnoX	Acute Moderate to Se	evere Pain						
Xativa	Anxiety/ Tremor							





PRODUCT	CLASS	PRECLINICAL	PK STUDY	BE STUDY	REGISTRATION
OTC*					
Loratadine	Anti-histamine	Allergy			
Diclofenac	NSAID	Anti-inflammatory			
Naloxone	Opioid Antagonist	Opioid Reversal			
SCHEDULE 4*					
Midazolam	Benzodiazepine	Sedation			
Sumatriptan/Eletriptan	5-HT antagonist	Migraine			
Tadalafil	PDE-5 Inhibitor	Male Erectile Dysfunction			

* In Australia

Wafermine, Sublingual Ketamine Wafer

- > Sublingual ketamine wafer for the treatment of pain and depression
 - 1) Acute pain market size US\$7 billion¹
 - 2) Depression market size US\$13 billion²
- > Developed under IND (US FDA) for acute moderate to severe pain
 - ✓ Potent non-opioid painkiller, safer than opioids (no respiratory depression)
 - \checkmark Can be used as a substitute or adjunct to opioids
- Phase 2 development successfully completed
- End of Phase 2 meeting with US FDA completed, received written outcome in Dec 2019
 FDA accepted iX proposed Phase 3 clinical protocol designs
- Strategy is to partner 3rd party for development of Phase 3 & product commercialisation

	CONTROLLED DRUG POSSESSION WITHOUT AUTHORITY ILLEGAL KEEP OUT OF REACH OF CHILDREN
Wafermine [®]	* 50
Each wafer contains 50 mg keta 10 sublingual wafers	mine (as hydrochloride)
ixsyrinx	<mark>50</mark>
	6000



Wafesil, Sublingual Sildenafil Wafer



How is Wafesil different?

Wafesil Benefits

- 1) Avoids need to swallow tablets in patients who cannot or prefer not to
- 2) Enhanced pharmacokinetics potential for faster onset of action & mitigation of food effect
- 3) High level of end-user preference
- 4) Protection from counterfeiting
- 5) Halal, gluten free

Wafesil has received marketing approval in Australia It is available in two dose strengths; 25mg & 50mg & two different pack sizes; 4 and 8 wafers.





ENTITY HEALTH

ēntity, Next Generation Nutraceuticals

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It's no surprise many people feel that supplements don't work for them when most are simply vitamins designed to replenish general nutritional deficiencies

We believe Entity delivers more than nutrition, it enhances quality of life

> Entity products:

- \checkmark Are condition specific
- \checkmark Have optimised delivery
- \checkmark Achieve perceptible change



Nutraceuticals





14 listed products with the Australian Register of Therapeutic Goods (ARTG) ...

Growth Priorities

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- Continue to focus on the Australian market
 - ✓ 215 stockists in Australia to-date including;
 - \diamond pharmacies
 - $\diamond~$ health food stores across Melbourne and Sydney
- Access China market through cross border e-commerce platforms
 - \checkmark Track record established in Australia
 - ✓ Tmall largest CBEC platform in China for established global brands
 - ✓ JD.com second largest CBEC platform



CANNABIS

Cannabis Market Size



Global

Market size in 2018 estimated at US\$13.8 billion; projected to reach US\$66.3b¹ by the end of 2025 expanding at a CAGR of 23.9% between 2018-2025

USA /Canada

- US market size in 2018 estimated at US\$1.9 billion; projected to grow at CAGR 49% to US\$20b² between 2018 & 2024
- Canada market size in 2018 estimated at US\$569 million; projected to grow at CAGR 44% to US\$5.2b² between 2018 and 2024
- More than US\$10 billion invested into the North American marijuana industry in 2018, twice the total amount invested in the previous three years, estimated increase to US\$16 billion in 2019³

Australia

> Total estimated cannabis market value projected to reach **US\$2.1b**⁴ by 2028

Cannabis Market Trends



Cannabinoid preference

- Cannabis plant has 2 major component cannabinoids: THC (psychoactive) & CBD (non-intoxicating)
- Cannabis use previously driven by THC in recreational products & medication for epilepsy & management of cancer symptoms
- CBD use is now escalating rapidly:
 - ✓ Non-intoxicating, won't get high
 - Therapeutic properties increasingly supported by clinical research
 - Anecdotal evidence of therapy in a large range of conditions

Indications for use



Source: consumer reports survey of 4000 Americans

Cannabis Delivery Formats



Edibles and Beverages	Image: Non-StructureImage: Non-Structure					
Administration	Disadvantages					
Smoking / Vaporiser	 Variable concentration Lack of production controls High potential of adverse effects & 3rd party exposure Lack of safety & efficacy data, and no medical use history 					
Oral preparations	 Slow/delayed onset of effect, which is dangerous for THC Poor bioavailability, significant first-pass liver metabolism Variable & inconsistent dosing Not optimised for sublingual administration 					

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The Case for Sublingual Delivery



- > Sublingual delivery of cannabis is fast becoming the most preferred method of consuming cannabis
- In the US, where the retail markets for cannabis products are well developed, the delivery of choice is sublingual via film
- Why use sublingual dosing?
 - ✓ Immediate relief no waiting for digestive tract absorption
 - ✓ **No negative health effects** better than smoking or vaporizing
 - ✓ Accuracy nothing lost in extraction so you can dose more accurately than tinctures, smoking & eating
 - ✓ Safety safer & more reliable than edibles, smoking and vaping
 - ✓ **Cost saving** patients use less, more cost effective solution
 - ✓ **Discreet** less obvious, better user experience



Xativa, Sublingual Cannabis Wafers

- All licences in place for cannabis business in Australia and Worldwide
 - 1) TGA GMP manufacturing licence
 - Import and export licences 2)
 - 3) Cannabis manufacturing licence
 - Controlled substances licence 4)
- Plan to launch Xativa (CBD wafers) in Australia under SAS by 2Q2020 \geq

Potential indications

- ✓ Anxiety
- \checkmark Chronic inflammation, pain
- ✓ Cancer symptoms
- ✓ Essential tremor

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Export License





SUMMARY



21 Jul 2015 Initial Public Offering

29 Jan 2020

