



Insu Therapeutics

Transforming Medicine For Better Life

Corporate Presentation

November 2023



Disclaimer

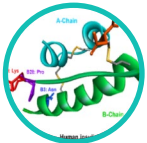
SAFE HARBOUR DISCLOSURE - FORWARD-LOOKING STATEMENTS

Certain statements made in this presentation, including, but not limited to, statements relating to expected future events, financial and operating results, guidance, objectives, plans, strategic priorities and other statements that are not historical facts, are forward-looking. By their nature, forward-looking statements require Insu Therapeutics management to make assumptions and predictions and are subject to inherent risks and uncertainties, thus there is risk that the forward-looking statements will not prove to be accurate.

Readers are cautioned not to place undue reliance on forward-looking statements as a number of factors could cause actual future results and events to differ materially from that expressed in the forward-looking statements. The forward-looking statements made in this presentation and discussion describe our expectations as of today and, accordingly, are subject to change going forward. Except as required by law, Insu Therapeutics disclaims any intention or obligation to update or revise forward-looking statements.



Our vision is to become the industry leader in providing patients with viable alternatives to injectables medicines, and our mission is to make peptide-based medicines orally available to all patients.



Massive addressable market with over half a billion diabetics: the global diabetes drug market is estimated at US\$61.9 billion in 2022 and projected to be US\$118 billion by 2032.



Patent-pending novel non-invasive oral insulin delivery technology, developed from innovative breakthrough research from the University of British Columbia (UBC).

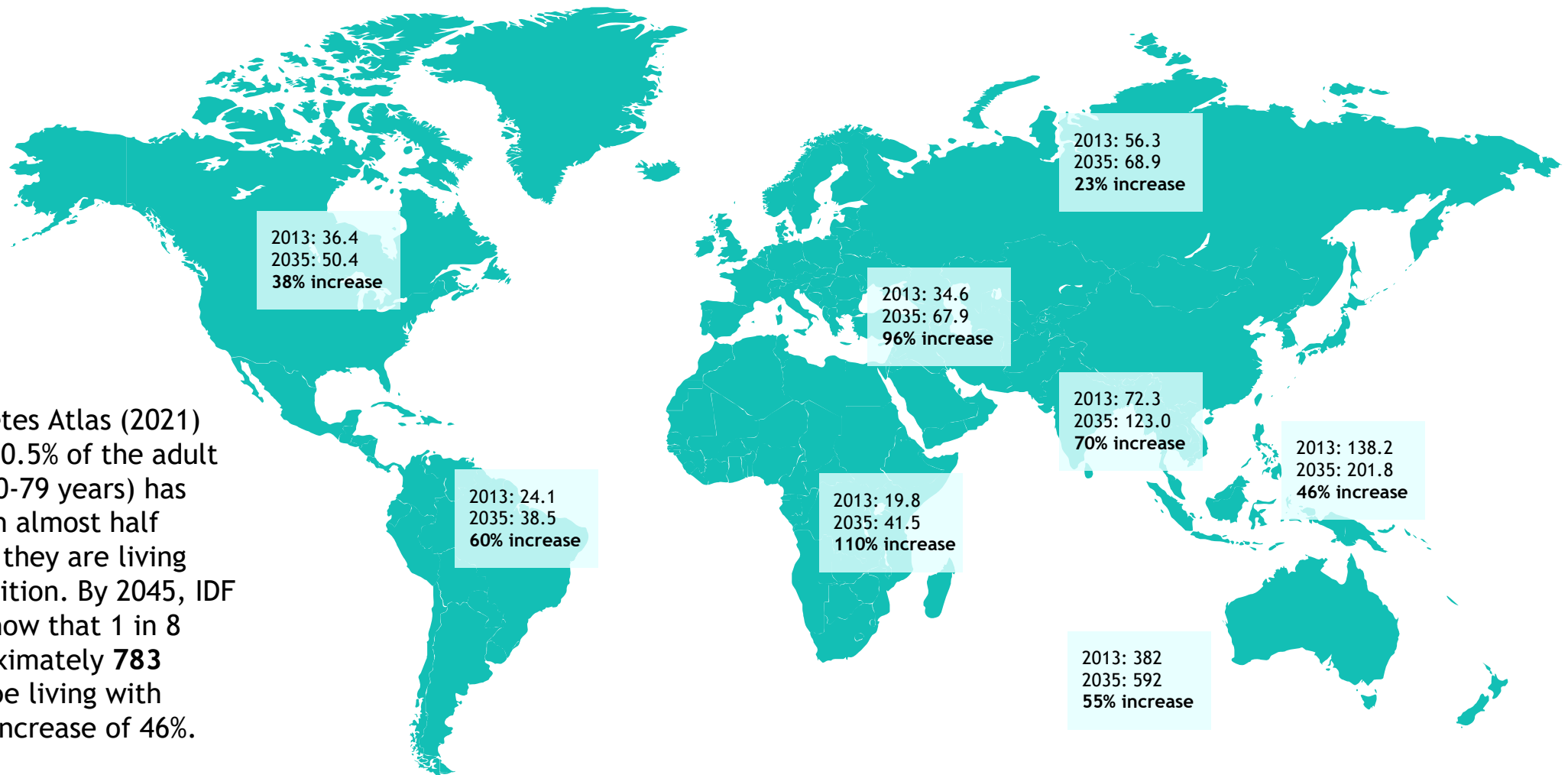


Clear and accelerated regulatory pathway with FDA and EMA, leveraging safe and known FDA-approved drugs in a new dosage form.



Reducing environmental impact, while increasing sustainability and broad accessibility, with shelf-stable tablets eliminating need for refrigeration and reducing plastic waste.

Exponential Rise of Diabetes Worldwide



The IDF Diabetes Atlas (2021) reports that 10.5% of the adult population (20-79 years) has diabetes, with almost half unaware that they are living with the condition. By 2045, IDF projections show that 1 in 8 adults, approximately **783 million**, will be living with diabetes, an increase of 46%.

Source: Diabetes: A 21st century challenge - The Lancet Diabetes & Endocrinology

(Image: <https://www.thelancet.com/cms/attachment/9e02ae63-78e9-49b3-ae89-0d24f6e579c6/qr1.jpg>)

The Global Diabetes Crisis

537 million

>7% of World Population is living with diabetes, more than double compared to **20 years** ago. **643 million** people will be living with diabetes by **2030**.

542,000

Children below 14 years of age, living with Type 1 diabetes in 2017. **98,000 children** are diagnosed with Type 1 diabetes every year.



3 in 4 adults with diabetes live in low- and middle-income countries.

US \$966B

In health expenditures due to diabetes (**2021**), a **316%** increase over the last **15 years**.

Insu Therapeutics Overview

Insu Therapeutics is an innovative UBC research-spinoff company **redefining diabetes treatment with patent-pending, novel non-invasive insulin delivery technology**, targeting the daily challenges of **over 9 million** ^{ref.1} **type 1 diabetics** and the broader needs of **over half a billion people with diabetes globally**.

The Insu buccal insulin tablet has demonstrated successful results in animal trials and is able to be equally absorbed in comparison to traditional injections. Furthermore, the Insu tablet is **shelf-stable**, eliminating the need for refrigeration and **reducing environmental impact** with less plastic waste, resulting in a more sustainable supply chain and broader accessibility to insulin.

Leveraging **safe and known FDA-approved drugs** in a new dosage form, Insu Therapeutics is on an accelerated pathway to commercialization, with Phase I and II clinical trials slated for **2024** and **2025**. As we expand to address the high demand for effective insulin treatments, Insu Therapeutics intends to initiate R&D on other peptide drugs and set up Canada's first insulin manufacturing facility in the future.

Global incidence, prevalence, and mortality of type 1 diabetes in 2021 with projection to 2040: a modelling study
Gabriel A Gregory, MD *Thomas I G Robinson, LLB * Sarah E Linklater, PhD Fei Wang, PhD Prof Stephen Colagiuri, MD Prof Carine de Beaufort, PhD et al
Published: September 13



Pioneering Buccal Insulin Delivery Technology

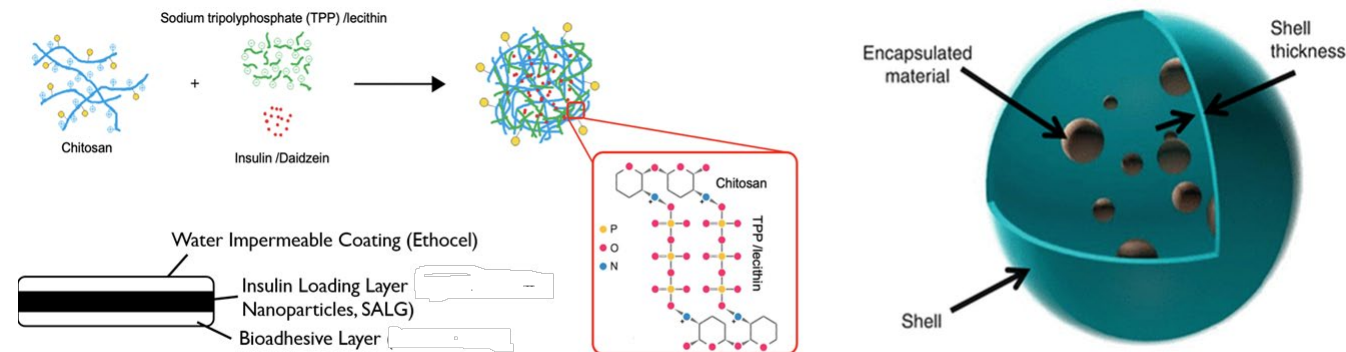
Traditionally, insulin cannot be taken orally due to saliva or gastrointestinal degradation, which has been the challenge of other oral insulin efforts. However, we have developed a breakthrough buccal insulin tablet, administered through the cheek's inner lining that is highly effective.

This triple-layered, mucoadhesive tablet features:

A water impermeable coating,

A bio adhesive layer for effective delivery.

An insulin loading layer with advanced nanoparticles comprising of recombinant human insulin, tripolyphosphate (TPP), and thiolate chitosan derivative, and



Fabrication Of Encapsulated Insulin Nanoparticles, with Ionotropic Gelation Method

Global Intellectual Property Portfolio

The patent filings cover the technological aspects of the buccal tablets' design and MNA-TG-chitosan synthesis. In addition, the IP portfolio covers major areas that are driving the key R&D products:

A) **The Encapsulator** - MNA-TG-Chitosan - this thiolated polymer can be used as an excipients by other Businesses too under our sub-license. It can be used for both freeze drying & spray drying encapsulation.

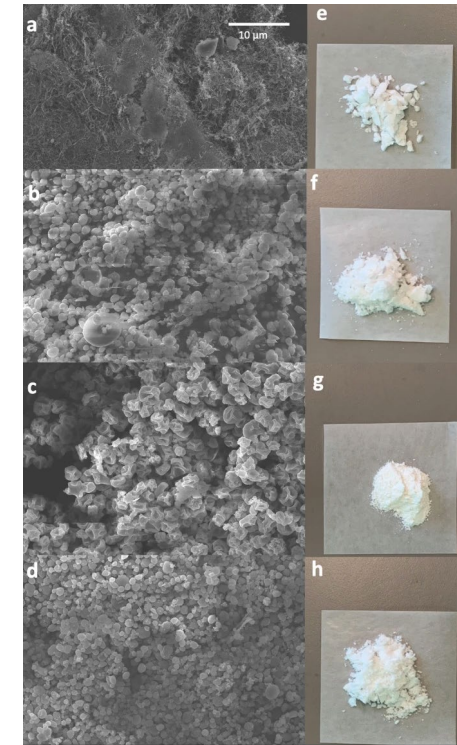
B) **The Tablet Design** - our unique tablet design allows us to deliver other buccal ingredients effectively.

C) **The Buccal Insulin Tablet** - the insulin injective alternative we are progressing to the clinical trials as a demonstration of the platform technology for buccal tablets

D) **Broad Application** - Mucoadhesive Pharmaceutical dosage form for unidirectional release of peptide therapeutic particles

Worldwide PCT Application Serial No. PCT/CA2023/051129 filed 25 August 2023

U.S. Provisional Patent Application Serial No. 63/400,863 filed 25 August 2022



Production of high loading insulin nanoparticles suitable for oral delivery by spray drying and freeze-drying techniques.



Freeze Dryer



Spray Dryer

Breakthrough Research & Development

Our **proprietary buccal insulin delivery technology** has demonstrated efficacy in simulated settings using diabetic Wistar rat models. Rigorous in-vitro and in-vivo tests confirmed its effectiveness, with buccal insulin tablets **showing a comparable onset of action to injected insulin.**

Notably, **buccal insulin delivery platform outperformed injections** in sustained blood glucose reduction beyond **2 hours**. This approach ensures nearly **100%** of the insulin is directed to the liver, addressing previous challenges of oral insulin accumulating in the stomach.

We will be progressing to larger animal trials, and human trials based on FDA input, these trials are slated for 2024 and 2025, respectively.

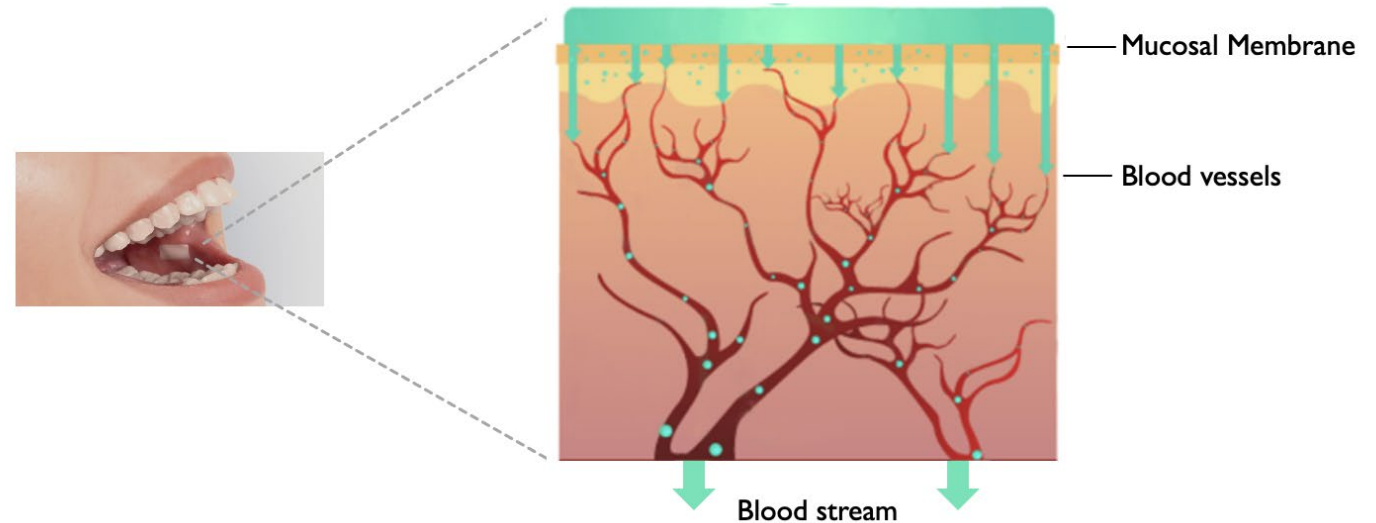


Major Biological Advantages of the Buccal Delivery System

Biological Benefits - The buccal route provides systemic bioavailability due to the high total blood circulation through the cheek and it avoids first-pass hepatic metabolism and gastrointestinal drug degradation - improving drug efficiency with buccal delivery while enhancing patient experience.

Logistical Benefits - Our shelf-stable formulations eliminate the need for refrigeration, streamlining global distribution and eases travel logistics and need for cold storage.

Reduced Environmental Footprint - By eliminating needles and reducing plastic waste, we can improve sustainability of the insulin supply chain and reduce the carbon footprint.



Our oral solution has the potential to cut per-dose costs, presenting diabetics with a more user-friendly transport option.

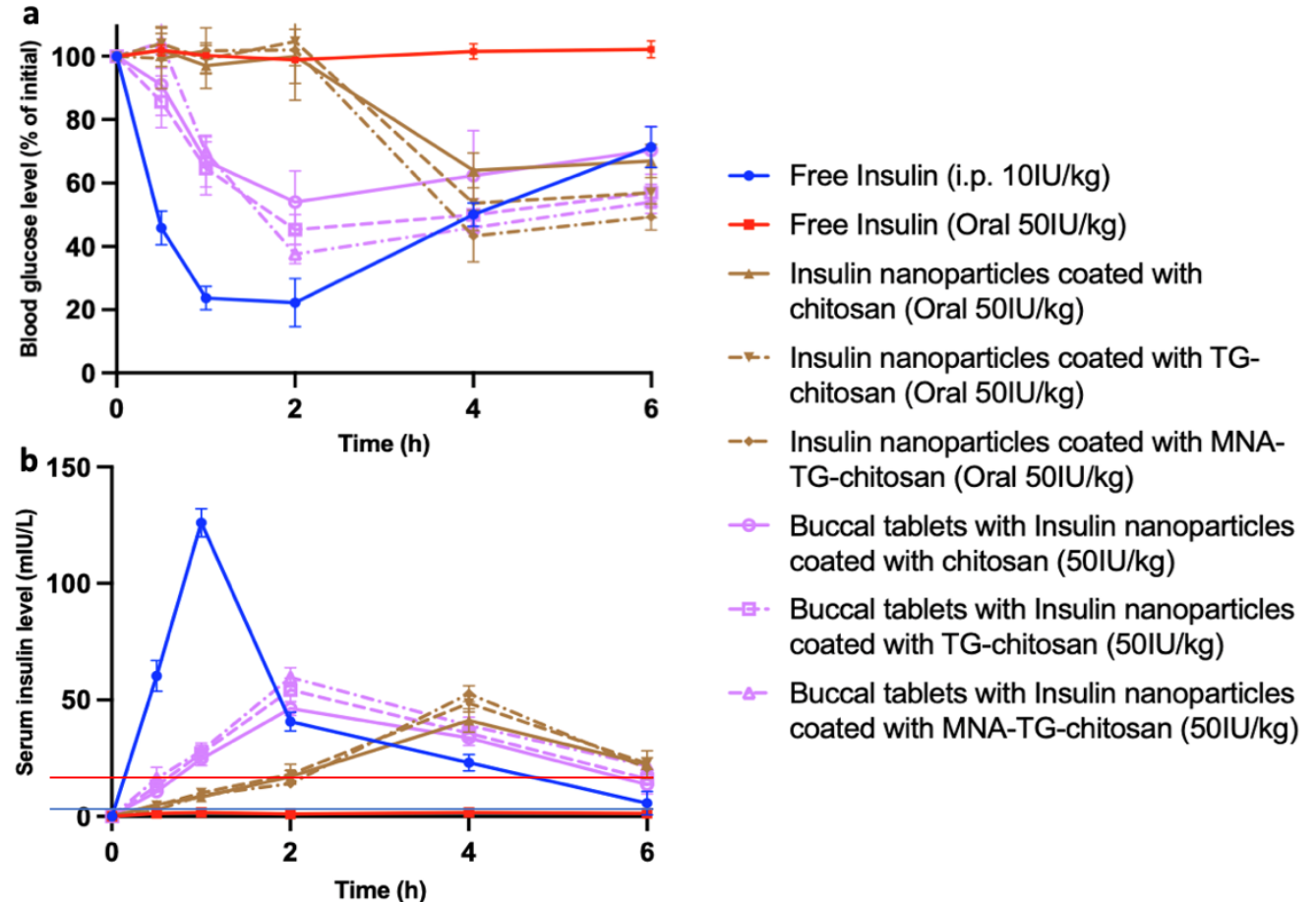
Improved Blood Glucose Control

Insu Therapeutics Study Results on Animal Models

Blood Glucose Levels of rats taking Insu buccal tablets (purple lines) vs injectable Insulin (blue line), matched between 5-6 hours.

Serum Insulin Levels shows higher retention of insulin in blood for buccal insulin than injected insulin beyond 2 hours of administration, suggesting long-lasting effects.

Area under the curve comparison between injected insulin (Blue line, 225 area units) v/s buccal insulin (Brown line, 224 area units) shows that 100% of buccal insulin was bioavailable.



Buccal delivery of insulin nanoparticles and buccal tablets on blood glucose level in a diabetic rat model. Profile of (a) Blood glucose level vs. time for diabetic rats; (b) Serum insulin level vs. time for normal rats.

AUC, the area under the curve, represents the total drug exposure integrated over time and is an important parameter for both pharmacokinetic and pharmacodynamic analyses.

Reducing Carbon Footprint

The prevalent insulin delivery methods contribute to notable plastic waste and carbon emissions, underscoring the imperative for sustainable diabetes management solutions.



Environmental and Accessibility Dilemmas:

- Traditional insulin delivery generates significant plastic waste and necessitates carbon-emitting incineration, while refrigeration requirements in the supply chain amplify accessibility and affordability challenges.

Global Impact and Waste Concerns:

- With 537 million adults with diabetes worldwide, millions of discarded syringes annually, presenting substantial waste management and environmental challenges.
- India: The 65 million Indians living with diabetes consume about **160 million insulin syringes** and about **50 million pen needles** annually. Each syringe weighs 3.28 g. Excluding the weight of the cannula, the net amount of plastic generated from insulin syringes alone, each year is **600,000 kg**.

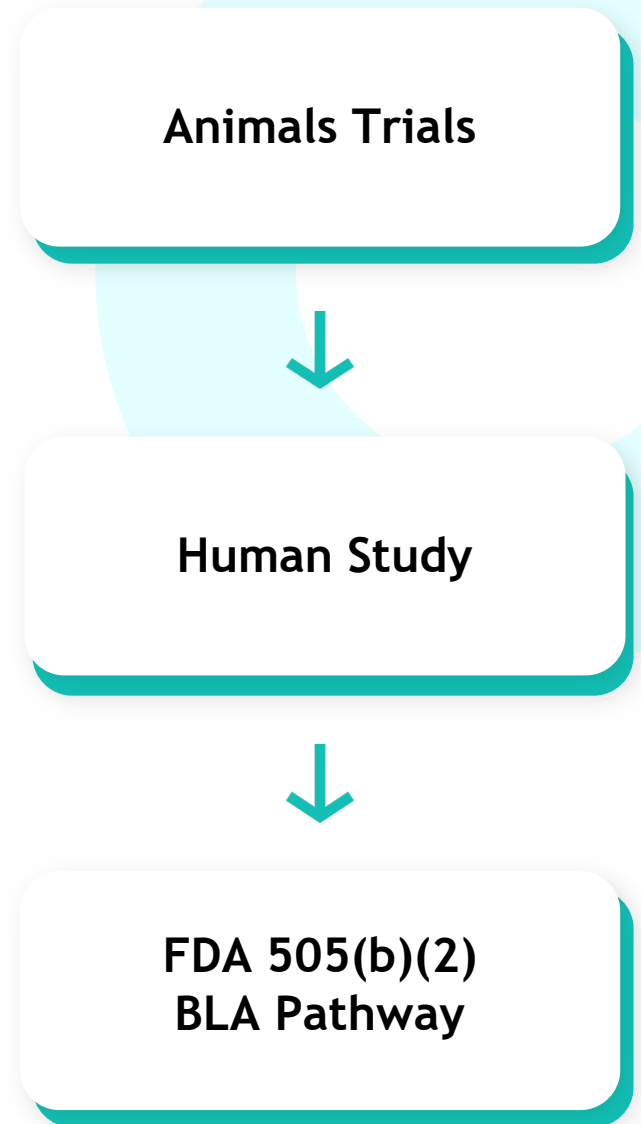
Accelerated FDA Pathway and the Future Launch of Canada's First Insulin Manufacturing Facility

From a regulatory standpoint, our technology bypasses the lengthy and costly traditional biotech route, which can take **7-10 years** and hundreds of millions of dollars before it reaches the market.

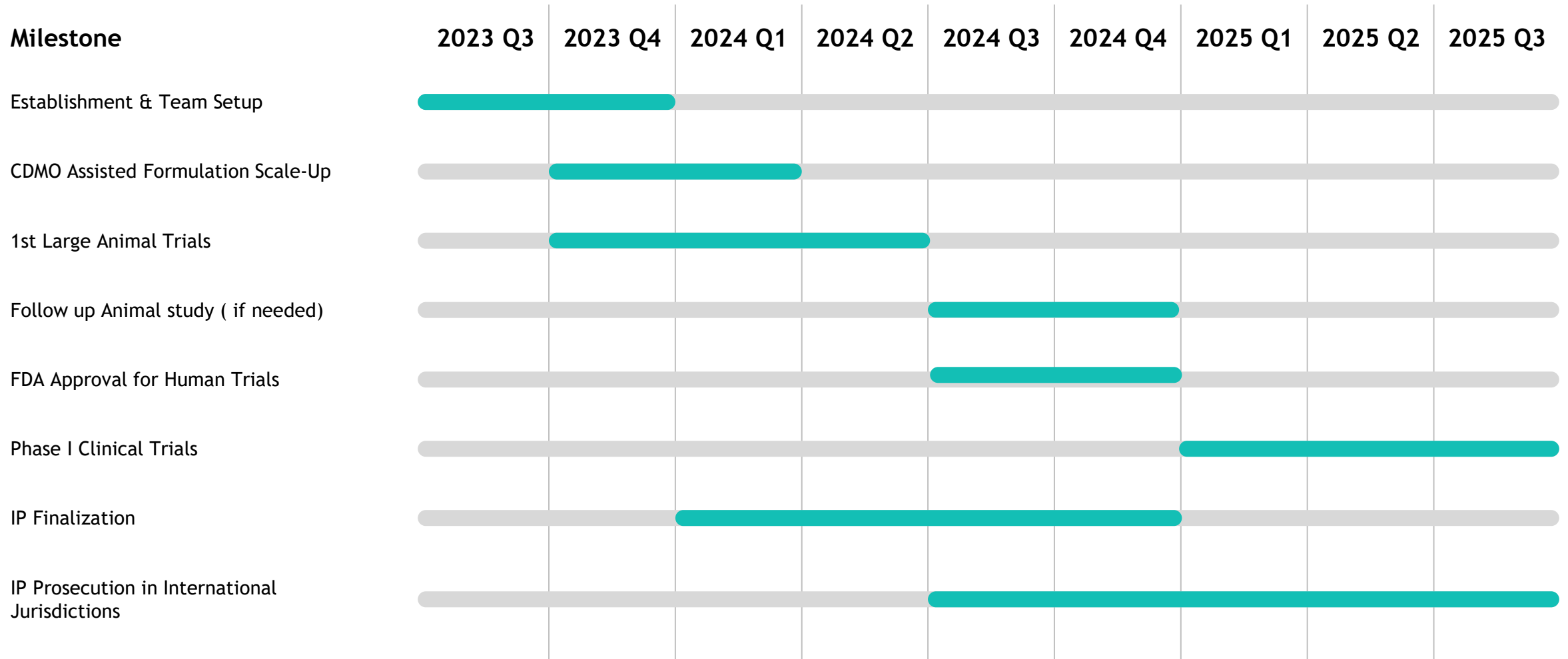
We utilize a known, **safe approved drug**, merely altering the dosage form, which the FDA grants an accelerated pathway to commercialization.

Insu Therapeutics is working on scaling up production of buccal insulin tablets to meet the demand of **millions of diabetics** by **2025**.

Committed to advancing core science and continual innovation, we are further developing the technology to incorporate other peptides drugs and **GLP1RA** analogs, develop tailored excipients for its buccal insulin formulation, as well as setting up Canada's first insulin manufacturing facility.



Insu Therapeutics Development Roadmap



Insu Therapeutics Market Comparables



Structure Therapeutics (NASDAQ: GPCR)

Market Cap \$2.39 B



Oramed Pharmaceuticals (NASDAQ: ORMP)

Market Cap \$87.54 M



MannKind Corporation (NASDAQ: MNKD)

Market Cap \$975.86 M

MannKind Corporation will receive from Sanofi an upfront payment of \$150 million and potential milestone payments of up to \$775M.

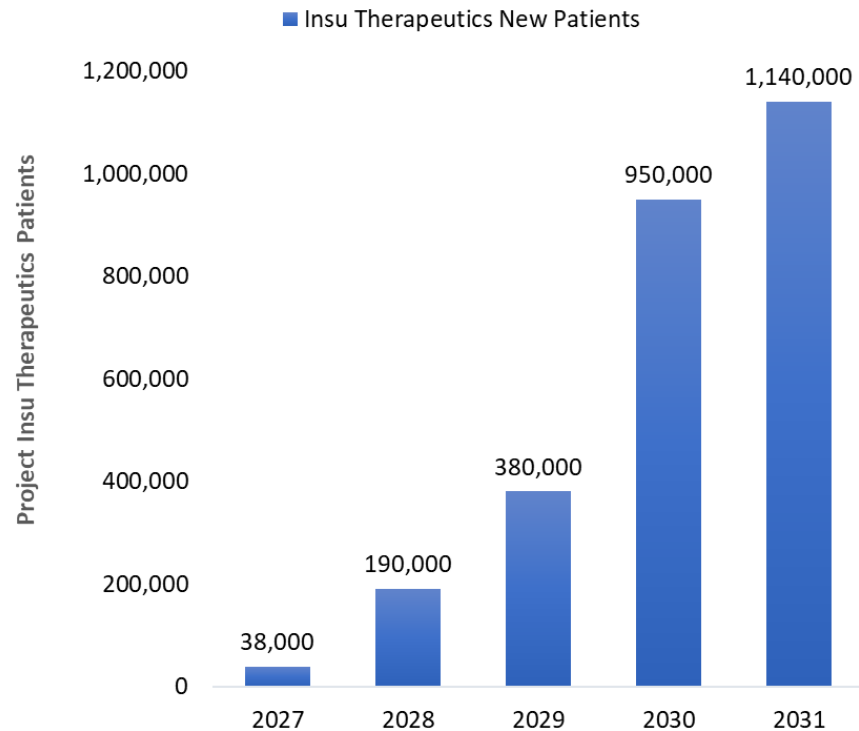


Aquestive Therapeutics (NASDAQ: AQST)

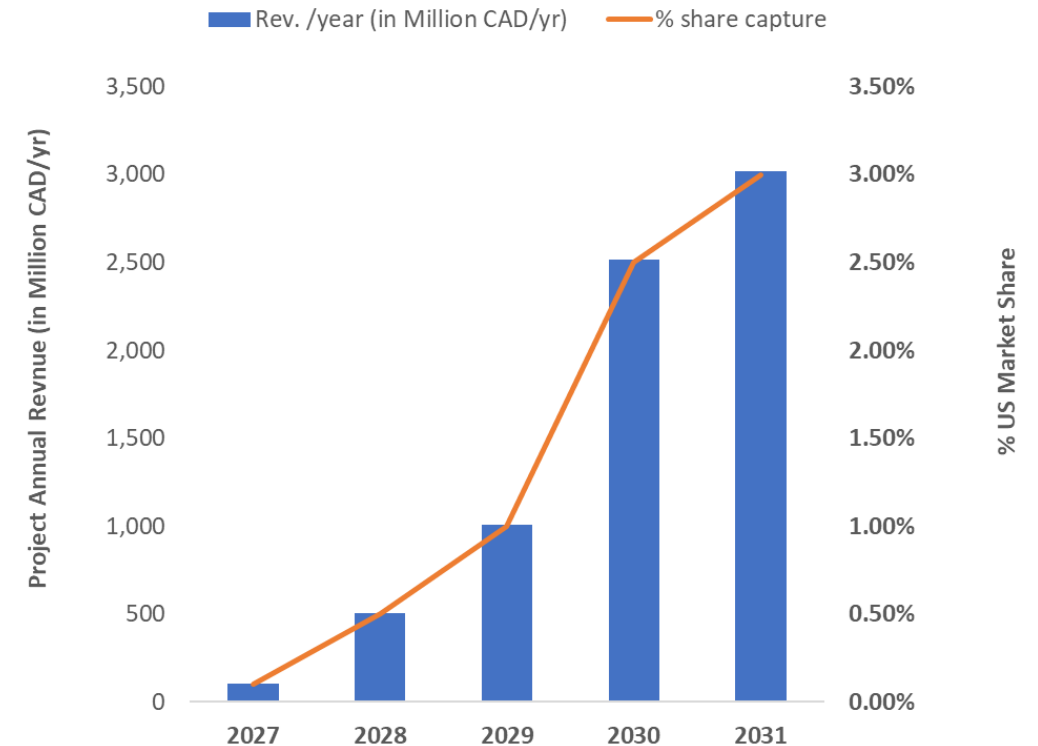
Market Cap \$141.55 M

Impact & Revenue Projections

No. of Lives Changed by Insu Therapeutics



Revenue Forecast for Insu Therapeutics



Global Media Attention

The buccal delivery technology has attracted the attention of the media worldwide.

Major news outlets and publishers have covered our breakthrough innovations, with press extending across North America, Europe, Middle East & Asia, South America and Africa - including national Canadian media, such as CBC, CTV, CityNews, and worldwide, such as Aljazeera, India Times, MIT News, Technology Networks, and many more.



CityNews



ScienceDaily



Insu Therapeutics Team



Dr. Anubhav Pratap-Singh
Chief Executive Officer

Dr. Anubhav Pratap-Singh, the Endowed Professor and Director, BC Food & Beverage Innovation Centre, at UBC's Faculty of Land & Food Systems, is at the forefront of pioneering research in food and bioproduct technologies. His work has resulted in more than 7 patents and 100 peer-reviewed publications in the field of novel processing technologies and novel drug delivery pathways. A former Banting Fellow, Dr. Pratap-Singh's most notable inventions include a buccal delivery method for insulin and other peptides, inhalable respiratory enzymes for CoVID, spray freeze drying of proteins, biodegradable packaging materials, a dietary fiber based fat replacer, gels for treatment of periodontal diseases etc. Dr. Pratap-Singh's affiliations include leadership roles at the UBC-Vancouver senate, Food Hub Network Academic Coordination Committee, the British Columbia Food Technologists' Association (BCFT), the Canadian Institute of Food Science & Technology (CIFST), and Editorial roles in Scientific Reports (Nature Publishing Group), Applied Food Research (Elsevier) and Measurement Foods (Elsevier).



Ammad Shorbaji
Chief Operating & Business Officer

Mr. Ammad Shorbaji holds a BSC in Pharmacy and brings extensive experience in regulatory affairs and biopharmaceutical sales and marketing. Ammad was previously Senior Manager, Scouting and Partnerships North America at Sanofi. He has a 25-year history with Sanofi where his scope of work spanned drug and medical device approvals, product reimbursement, regulatory strategy, pre-clinical and clinical product development as well as licensing and acquisitions. Prior to his role in the pharmaceutical industry, Ammad began his career as a pharmacist based in the US.



Dr. Tom Elliott, MBBS, FRCPC
Medical Director

Dr. Tom Elliott is the Medical Director at BC Diabetes. Dr. Tom Elliott earned his MBBS from the University of Queensland in 1982 and later specialized in Endocrinology & Metabolism, obtaining his FRCPC certification from the Royal College of Physicians of Canada. Since 1992, he's been affiliated with Vancouver General Hospital and UBC, where he currently holds the title of Clinical Associate Professor. Dr. Elliott founded BC Diabetes in 2007, an institution dedicated to the 300,000+ British Columbians with diabetes, with 18 staff and a unique case-management care model. Passionate about diabetes technology and advocacy, he has authored 73 scientific papers and is actively engaged in 15 ongoing research projects, emphasizing areas like early intervention and smart diabetes management systems.

Insu Therapeutics Team



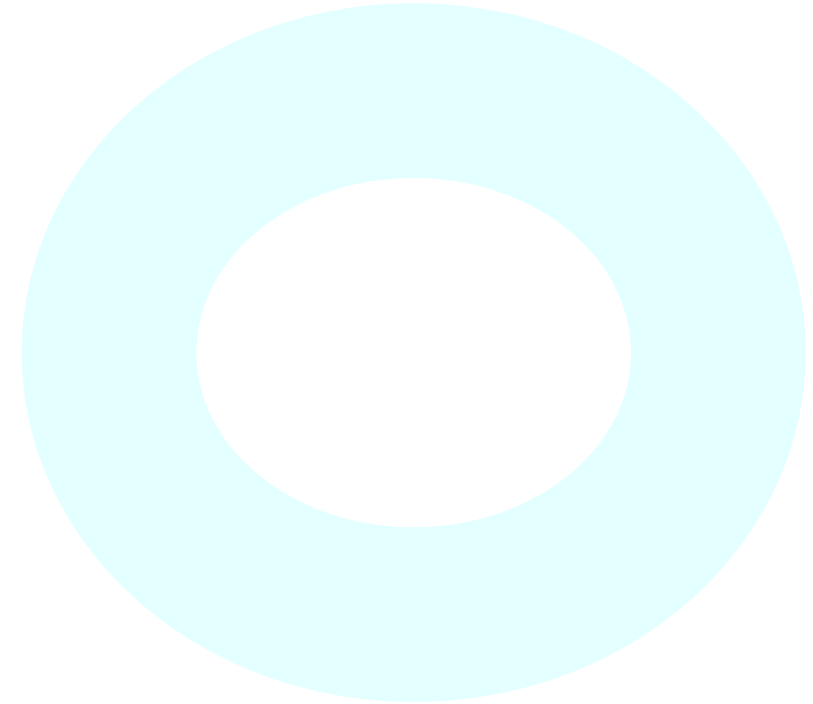
Dr. Yigong Guo

Dr. Yigong Guo is a researcher at the Food Process Engineering Laboratory (FPEL) within the Faculty of Land and Food Systems. He earned his PhD in Food Science from the University of British Columbia, Canada, and his MS and BS in Pharmacy from Shanghai Jiao Tong University, China. Dr. Guo's primary research focus is on the utilization of lipid-based enhancers to increase the transmucosal bioavailability of encapsulated drug delivery systems, specifically nano-emulsions and liposomes. His work has potential implications for optimizing drug delivery methods.



Dr. Anika Singh

Dr. Anika Singh, a Senior Scientist with a PhD in Food Science and Agriculture Chemistry from McGill University, is the Project Leader for the Natural Health Products research group, at the Centre for Applied Research and Innovation at the British Columbia Institute of Technology, and also holds an Adjunct Professor position at the UBC's Faculty of Land and Food Systems. With 10 years of R&D experience, Dr. Singh's expertise spans food processing, analytical chemistry, allergen control, and quality assurance in the food and pharmaceutical sectors. She has published over 50 peer-reviewed articles and presented at 20 international conferences.



Investor Highlights

Leveraging 25+ years of expertise and innovation in health and science, we are redefining diabetes care, enhancing patient quality of life, and creating a global impact, substantiated by our patents and scholarly publications.

Patent-Pending Oral Insulin Technology

US Provisional and International PCT Application filed, with the potential to replace daily injections and improve the quality of life of over 9 million type 1 diabetics and the broader needs of over half a billion people with diabetes globally.

Opinion Letter Available

Advanced Technology Ensures Efficient Insulin Delivery

Avoiding loss to saliva and gastrointestinal degradation, a major barrier to other oral insulin efforts.

Accelerated Commercialization Pathway

Leveraging **safe and known FDA-approved drugs** in a new dosage form, with Phase I and II clinical trials slated for **2024** and **2025**.

Sustainable Supply Chain

Eliminating refrigeration and needles, as well as reducing plastic waste, resulting in reduced carbon footprint and environmental impact.

Increased Accessibility For Insulin

With a simplified supply chain, resulting in greater affordability and broader reach, especially in lower income geographies.

Scaling And Expansion

To meet the needs of millions diabetics by 2025, venturing into other peptide drugs and setting up the first insulin manufacturing facility in Canada, where insulin was invented.

Capitalization Table

Shareholder Name	Shares Owned	Percent Ownership
Victory Square Technologies Inc. (VST)	250,000	23.00%
Blue Panthers Technology Inc. (Inventor)	450,000	41.40%
Mr. Ammad Shorbaji	187,500	17.25%
Dr. Yigong Guo	37,500	3.45%
Dr. Thomas George Elliott	37,500	6.9%
The University of British Columbia (UBC)	86,956	8.00%
Total	1,086,956	100.00%

Offering

CDN \$3,000,000

SAFE note

Use of Proceeds





Thank You

Transforming Medicine For Better Life

