TECHNOLOGY™
VENTURE
DEVELOPMENT

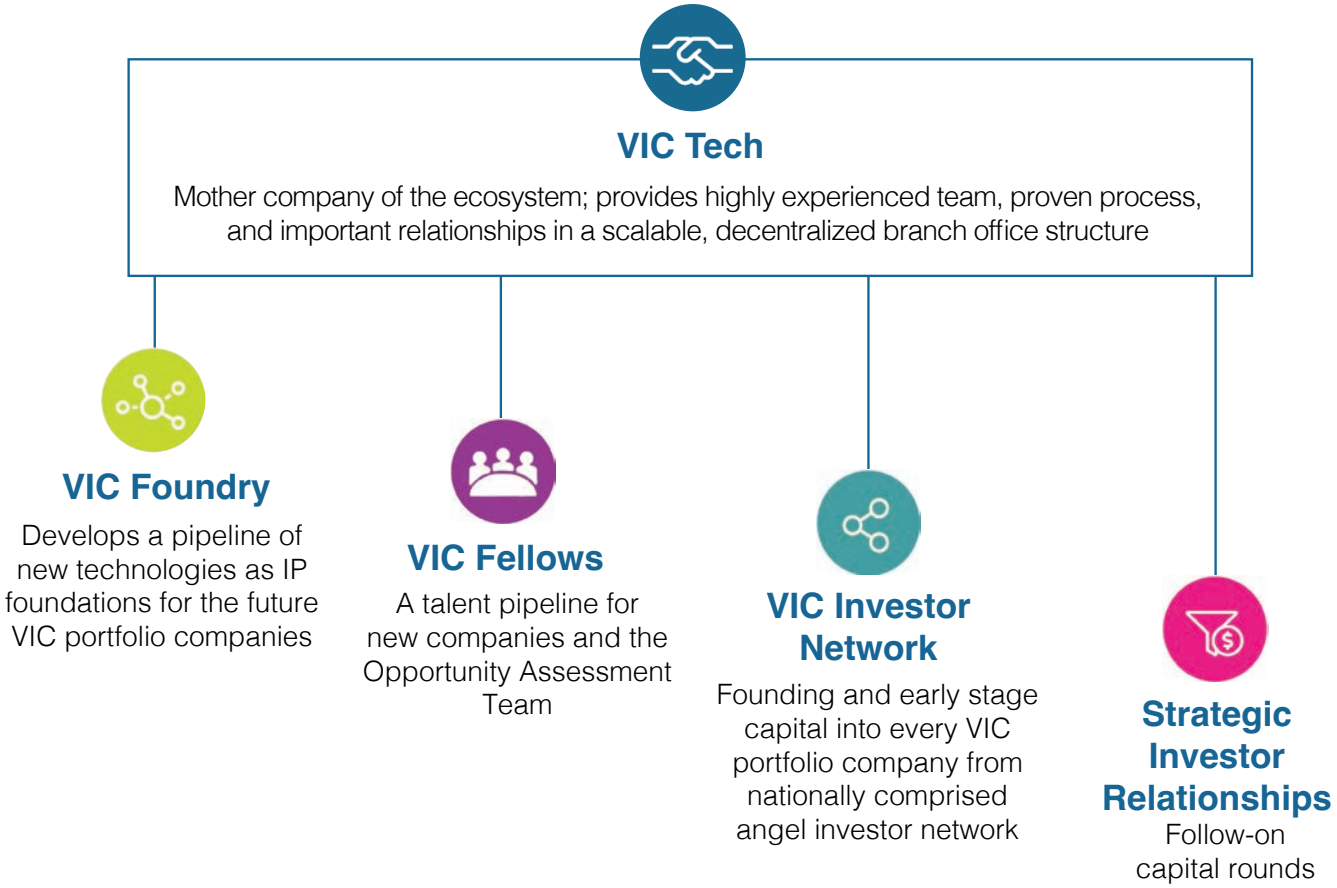
Mid-Year Report

2023

Introduction

Despite the difficult fundraising environment currently existing nationwide, VIC's portfolio of companies made impressive progress in the first half of 2023. Numerous new strategic partner relationships were formed providing capital investment, co-development projects, and sales and marketing agreements. Product development advanced rapidly across the portfolio with pre-clinical and clinical studies showing outstanding results. In some cases, these studies showed efficacy and safety results well beyond expectations. While the private investment landscape currently remains very difficult, and several of our companies have had to stretch out the timelines for closing their next investment rounds, our portfolio companies had broad success in acquiring additional non-dilutive funding which has helped greatly in bridging the gaps.

Within the VIC ecosystem we have continued to bring outstanding additional life science and commercialization expertise into our team and to our strategic and medical advisory boards. A new class of VIC Fellows have been interviewed from an exceptional pool of candidates and the new class will be announced in August. We acquired grant funding for two exciting VIC Foundry projects that could lead to future new companies and our VIC Investor Network continues to show outstanding returns.



Mission

Form and grow life science companies that shape the future by bringing innovative discoveries from research labs to commercial deployment.

Albuquerque, NM | Boulder, CO | Dallas, TX
Fayetteville, AR | San Francisco, CA | Twin Cities, MN

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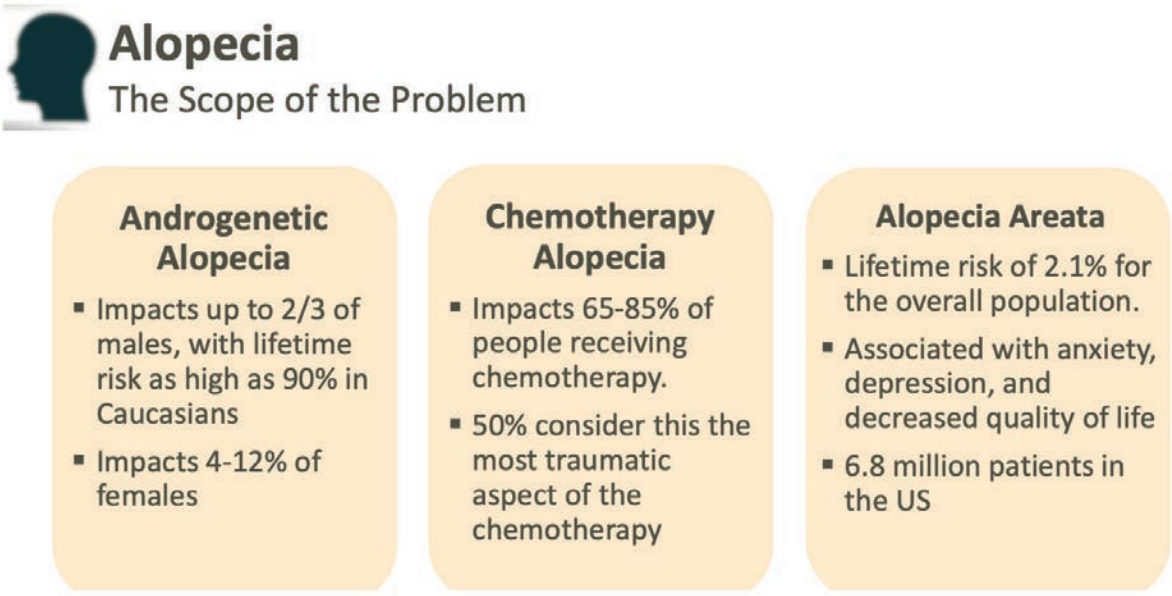
Portfolio Companies H1 2023 Progress

Therapeutics Portfolio

BiologicsMD

Products: Biologic therapeutics for hair loss and bone disease. Alopecia areata is the lead program.

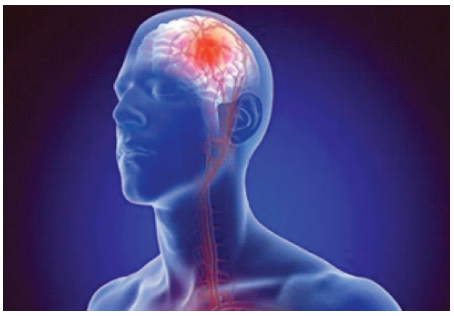
Value Proposition: "Smart" drugs that target the therapeutic to desired sites with higher efficacy, greatly reduced side effects, and much less frequent dosing requirements.



In the first half of 2023, **BiologicsMD** reports that its preclinical study of comparative efficacy for its alopecia areata therapeutic BMD-1141 to a benchmark JAK inhibitor (ruxolitinib) in the gold-standard animal model was accepted for presentation at the International Society for Investigative Dermatology in Tokyo in May 2023. BiologicsMD scientists, Rob Gensure and Robyn Goforth prepared the scientific paper that also included review and conclusions by Brett King, Yale School of Medicine, the company's recently added Senior Advisor. The BiologicsMD Scientific Advisory Board (SAB) was expanded in the first half of the year to include opinion-leading clinicians and researchers in the field of hair loss disorders. Joining Brett King, MD, PhD from Yale are Britt Craiglow, MD, Yale; Maryanne Senna, MD, Harvard and Lahey Clinic; Ali Jabbari, MD, PhD, Iowa University and Natasha Mesinkovska, MD, PhD, University of California-Irvine. These leaders will be extremely helpful in guiding BiologicsMD's product development and in being advocates and scientific supporters of the company's programs to strategic partners and investors.

Products: Novel, optimized peptide therapeutic to prevent brain cell death and resulting cognitive and behavioral impairment due to ischemic diseases such as acute ischemic stroke (AIS) and global cerebral ischemia (GCI), traumatic brain injury, neurodegenerative disease.

Value Proposition: Currently, there are no approved neuroprotective agents, creating a multibillion-dollar competitive whitespace. Neurexis Therapeutics' lead neuroprotective peptide has demonstrated efficacy and safety in both small and large animal models, and IND-enabling ADMET studies are underway.

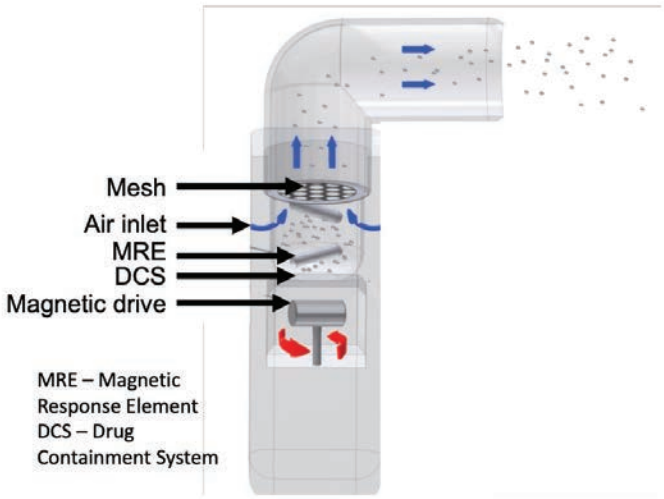


Neurexis Therapeutics continues to make strong progress in the development of its lead product—a neuroprotective peptide (tatCN19o) which has demonstrated excellent efficacy and safety preventing brain cell death in both small and large animal models of ischemia. A recent development is Neurexis' participation in the NIH Stroke Preclinical Assessment Network (SPAN) via a 3-year Direct-to-Phase II SBIR grant. The tatN19o therapeutic will be tested in animal models and compared to other interventions.

Products: Dry powder nebulizer and lung therapeutics (DryNeb™).

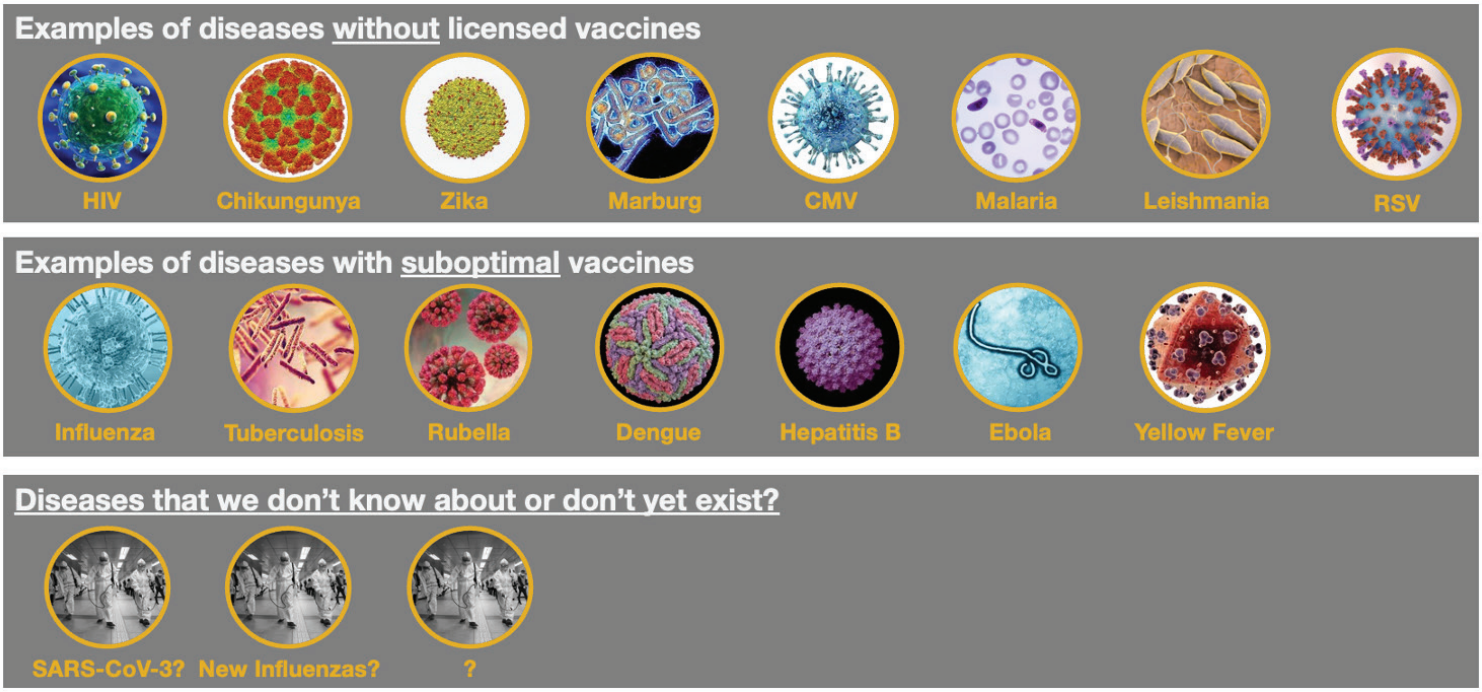
Value Proposition: DryNeb can change how lung-related diseases are treated. The DryNeb is the world's first and only inhalation device that can be combined with a therapeutic to deliver high doses of medicine directly to the lungs in a short period of time while a patient breathes normally.

Nob Hill Therapeutics (NHT) continues to develop its novel high-dose lung delivery technology with the goal of changing the treatment paradigm for lung-related diseases. In the first half of 2023, NHT built momentum by formulating the drug product that will be used in its first pre-clinical study, signing a development agreement for the commercial version of its technology, and building relationships with potential strategic partners interested in using NHT's DryNeb device platform. Additionally, the NHT team has welcomed two special advisors to provide expertise in the areas of regulatory and technical operations/quality. NHT's progress has been recognized by the ATS Respiratory Innovation Summit (where it was a featured poster presentation), as well as by the European Respiratory Society (ERS), which has accepted NHT's abstract and poster for presentation during their annual conference in September. To build on this momentum, NHT is focused on several milestones during the remainder of 2023: (1) hold its first discussion with the FDA in preparation for NHT's initial product filing, (2) complete its first pre-clinical study, and (3) finalize the clinical version of its device platform.



Products: Rapid, flexible, scalable, vaccine manufacturing platform for viruses, bacteria, and parasites.

Value Proposition: Novel approach allows for retention of protein structure post treatment to elicit an authentic and protective immune response. This provides more complete antigen presentation using whole pathogens, allows rapid manufacturing to address emergent strains, ability to have multiple vaccines against different infectious agents in a single batch, no toxic inactivating chemicals, less onerous storage requirements, and is applicable to viral, bacterial and parasitic pathogens.

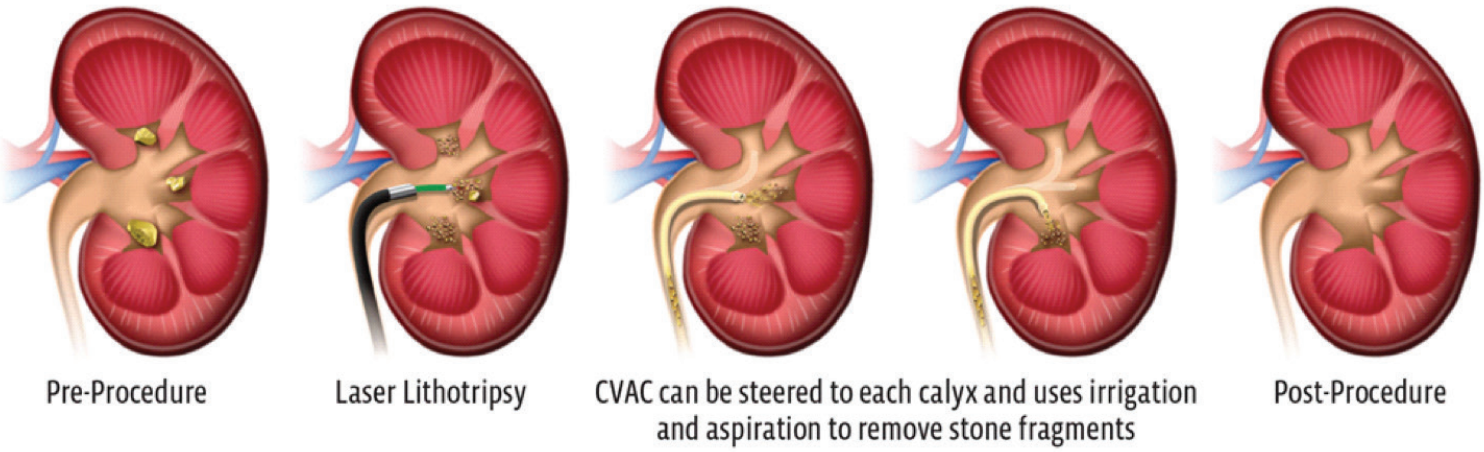


Even with recent advances, there remains a substantial unmet need for better approaches to creating new vaccines. **Solaris Vaccines** is developing an innovative method trademarked as SolaVAX™ which uses the combination of a photosensitizer (riboflavin/vitamin B2) and UV light to generate whole, inactivated vaccines. The company was recently awarded a Phase I SBIR from NIAID to investigate using the SolaVAX method to create an improved influenza vaccine. Solaris also received match funds from the State of Colorado to further accelerate this project. The pandemic threat of influenza still exists, and may be worsened by COVID-19 due to pressure on global healthcare systems and an increased number of individuals with pre-existing conditions. Even though current vaccines provide only 10%-60% protection, sales are still expected to grow to $6.5B by 2028. Solaris's safe and more efficacious vaccine has an opportunity to capture significant market share. Development of SolaVAX vaccines for SARS-CoV-2 and Tuberculosis are also in progress, and additional grant and/or contract funding is being pursued to support these and other programs.

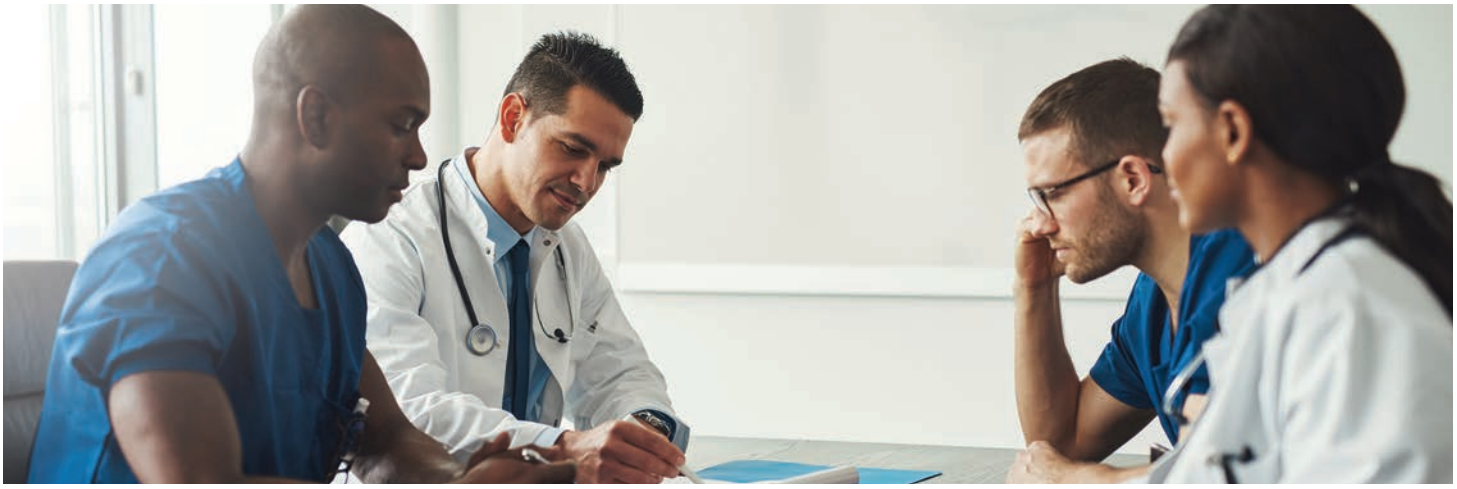
Medical Devices Portfolio

Products: Kidney stone removal medical device.

Value Proposition: Calxyo's CVAC device for removing kidney stones is a paradigm-shifting solution that enables urologists to safely, effectively, and efficiently achieve unrivaled clinical outcomes.

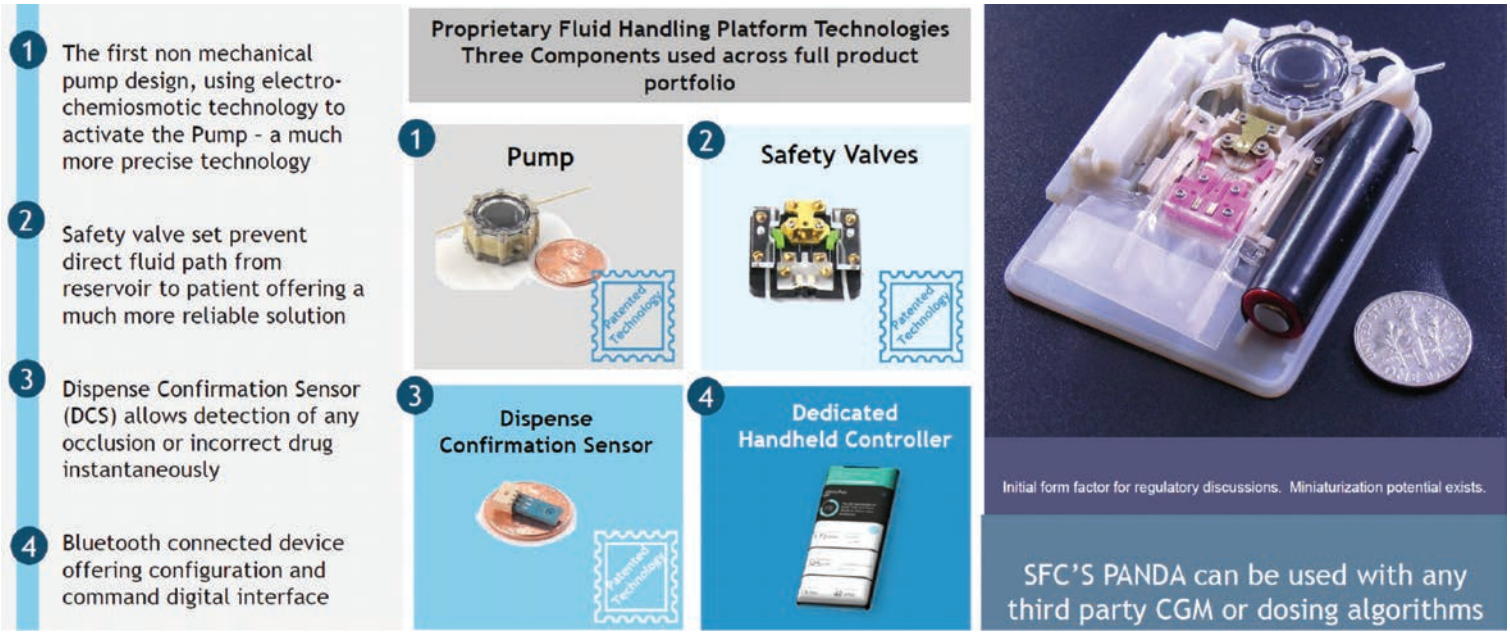


Calyxo continues to make great progress establishing the CVAC System as part of the standard of care in kidney stone treatment. Over 700 patients have been treated using the CVAC device and the product is now being used in large health systems and leading academic centers. A study on the effectiveness of CVAC in treating patients with large kidney stones was presented at the annual meeting of the American Urological Association. The study impressively demonstrated 96.1% of stone volume was removed from patients. In this 43-patient study, 21 patients were pro-actively scheduled for two-stage ureteroscopy due to the large stone size and 19 of 21 patients avoided the second procedure due to increased effectiveness of CVAC. Enrollment in a separate prospective randomized study was completed in February and data analysis is underway. The company has taken the customer feedback from their first-generation device and developed an improved second-generation device which is expected to launch in the first half of 2024. The second-generation device will reduce the learning curve and is expected to enhance patient outcomes further. Calyxo is poised for growth by disrupting the kidney stone market by enhancing outcomes for patients.



Products: Drug delivery patch pump for diabetes and other applications.

Value Proposition: Non-mechanical, disposable patch pump provides a new level of safety, efficacy, convenience, and cost.



SFC Fluidics closed a Series C investment round in H1 2023 led by its manufacturing partner Asahi Polyslider. It has also engaged with several potential strategic partners for various applications of SFC's novel drug delivery platform. Specifically, there are on-going discussions with a large glucose sensor company, a concentrated insulin developer, and a large insulin pharmaceutical company. All have shown an interest in pursuing human clinical studies with SFC. Also, an academic center developing closed loop artificial intelligence-based algorithms has proposed to use SFC's Panda insulin delivery system for two human clinical trials starting in 2025. A $2M NIH grant proposal by SFC for development of a dual hormone insulin pump platform was categorized by NIH as a "Pending" award in May with official award anticipated in the next couple of months. Medtronic recently announced plans to acquire a patch pump company based in South Korea for $738M. SFC has been investigating the Korean company's product technologies over the past few years and believe SFC's technology is superior in both dose accuracy and safety. The Medtronic acquisition was triggered by the Korean company's filing of a 510(k) submission to the FDA in January 2023. SFC's target 510(k) submission for the Panda remains for the end of 2024.

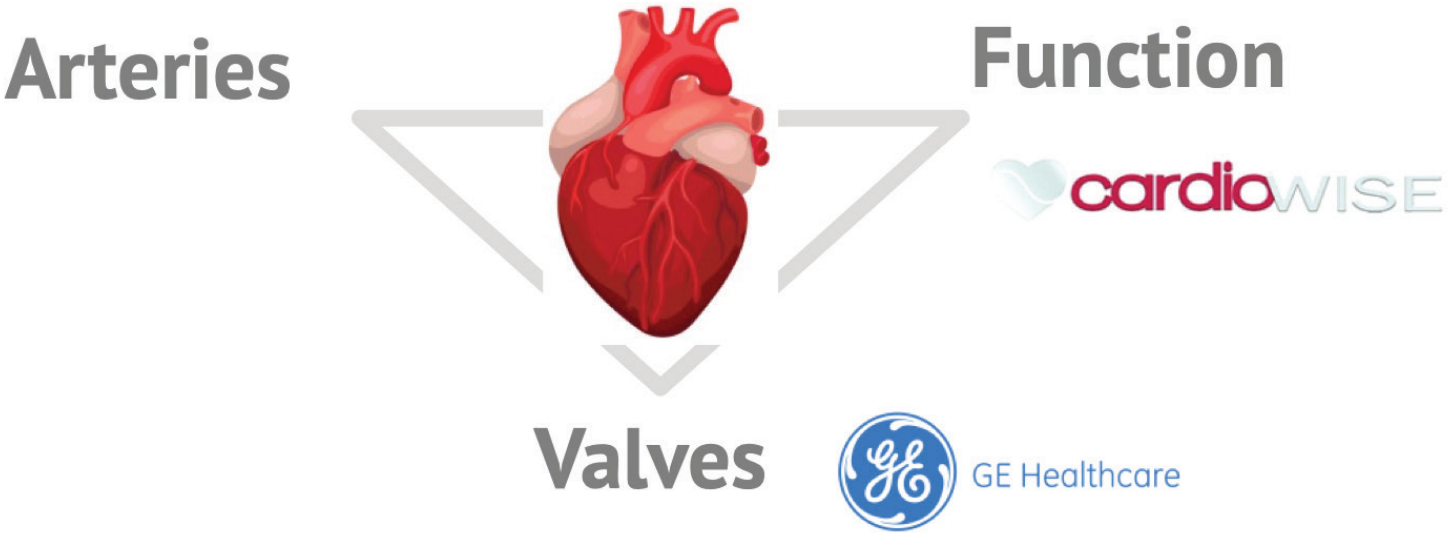
Products: Non-invasive medical device for treating bacterial infections on metal implants.

Value Proposition: Implant infections are notoriously difficult to treat due to biofilm formation that antibiotics cannot break through. Solenic offers a non-invasive method to reduce biofilm infection through treatment with alternating magnetic fields with animal studies showing six orders of magnitude reduction in bacteria.

Solenic Medical completed a $5.1M syndicated investment round led by Johnson & Johnson Development Corporation (J&J's corporate venture capital arm). The Series A investment allowed Solenic to significantly expand its development team and the company is now up to 9 people. New office and lab areas were leased. Progress has been rapid since receiving outstanding initial bone histology results from the final large animal trial,finalizing the core device design, and starting to build the initial human devices. Solenic has recently proven that the company's non-invasive device for treating or preventing implant infections can safety treat multiple knee implants from Zimmer Biomet and Stryker, with the same transducer design that was developed to treat DePuy Synthes Attune knees. This was not completely unexpected, but was a major milestone prove it. Next steps will be to complete the final sheep GLP study, complete two prototype devices with one going to standard 60601 electrical testing and another going into cadaver testing. This will complete the package needed to apply to the FDA for first in human studies, another major milestone.

Products: Machine learning based software for evaluation of cardiac function from CT imaging.

Value Proposition: CardioWise's heart analysis software for cardiac CT is a diagnostic test that is able to provide quantitative analysis of heart health with an unprecedented level of detail. The CardioWise software has an opportunity to become part of a new gold standard of care for heart health analysis.

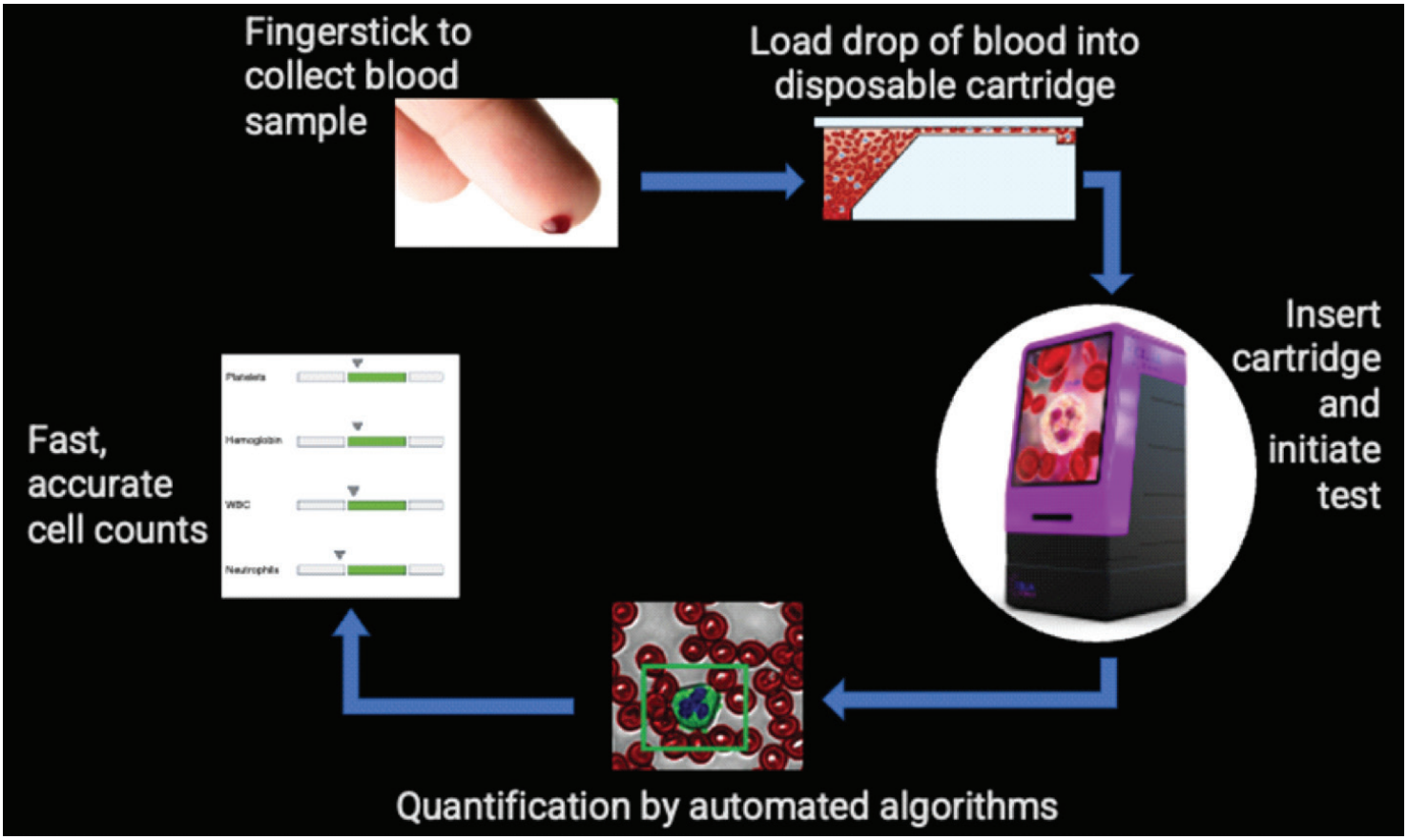


CardioWise SQuEEZ™ integrated with GE's CardioGraphe CT Scanners provide a new standard of care in the diagnosis and monitoring of cardiovascular disease

Since the beginning of 2023, **CardioWise** has concentrated its efforts on completing the onboarding process that began in mid-2022 when CardioWise was chosen by GE HealthCare to participate in their Edison Accelerator Program. That onboarding process has now been completed with verification and validation testing. GE HealthCare sent CardioWise a Term Sheet for commercialization through their extensive product lines and in their online marketplace. A 3-year agreement is being developed for GE HealthCare to commercialize CardioWise's SQuEEZ™ software worldwide. The current emphasis of CardioWise is to continue to support the GE HealthCare commercialization, including being represented in the GE HealthCare display at the Society of Cardiac CT meeting and the Radiological Society of North America meeting in the second half of 2023. CardioWise plans to use the GE Healthcare support systems and resources through the channel partnership to gain entry to both the US and EU markets and beyond. In parallel, CardioWise will build its own service and support programs to provide assistance to GE HealthCare (and other channel partners) for commercialization.

Products: Point-of-care hematology analyzer to perform a 5-part white blood cell differential using only a single imaging wavelength.

Value Proposition: There is a large unmet need in the oncology space, where patients spend hours waiting on results that are critical to directing their treatment, and this provides an opportunity for Cellia to drive adoption of a point-of-care device. Device is being designed to qualify as CLIA-waived to reduce barriers to care and enable new care modalities, including in-home chemotherapy.



Cellia Science has made strong progress in the first half of 2023 on the development of its point-of-care hematology analyzer. In February, the company was awarded a $276K Phase I SBIR grant from the National Heart, Lung, and Blood Institute. This funding has been helpful in propelling Cellia's research and development efforts forward. One area of focus that has yielded notable results is the design of the microfluidic sample cartridge. A new provisional patent has been filed to protect an innovative approach to forming a cell monolayer within the microfluidic device. In the second half of 2023, Cellia expects to complete the next generation instrument prototype and collect clinical data using its new cartridge design.

Products: Non-invasive, point-of-care device for monitoring heart failure.

Value Proposition: Readmissions or premature discharge of heart failure patients could be reduced by improving the ability to detect subclinical fluid congestion which is due to elevated cardiac filling pressure. Unfortunately, the clinical tools available today for detecting elevated filling pressure either lack sensitivity or specificity, and/or are expensive and invasive, thus limiting their use both inside and outside of the hospital. Vixiar's Indicor™ addresses this significant unmet medical need.

EARLY DETECTION OF CONGESTION

SIMPLE
Easy to use, non-invasive

RAPID
3 minute repeatable test

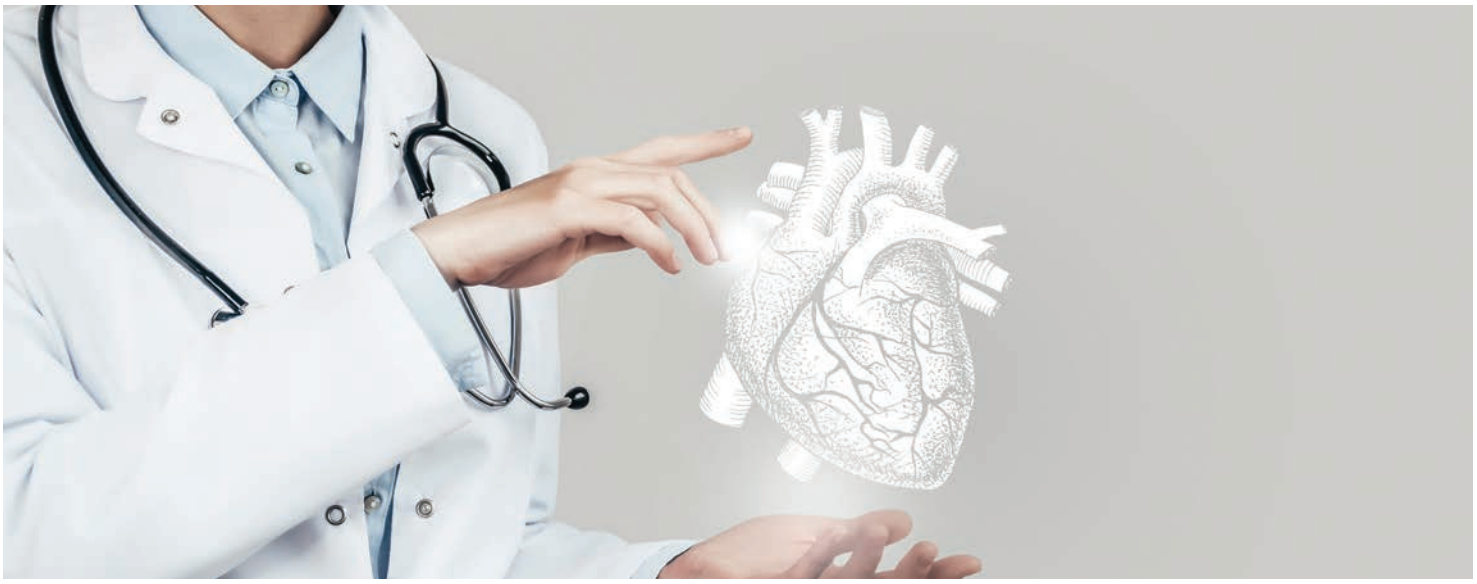
DIRECT
Measure of volume-pressure load

PREDICTIVE
Monitors for pre-clinical trends

ACTIONABLE
Informs treatment and discharge decisions

AFFORDABLE
Priced for broad utilization

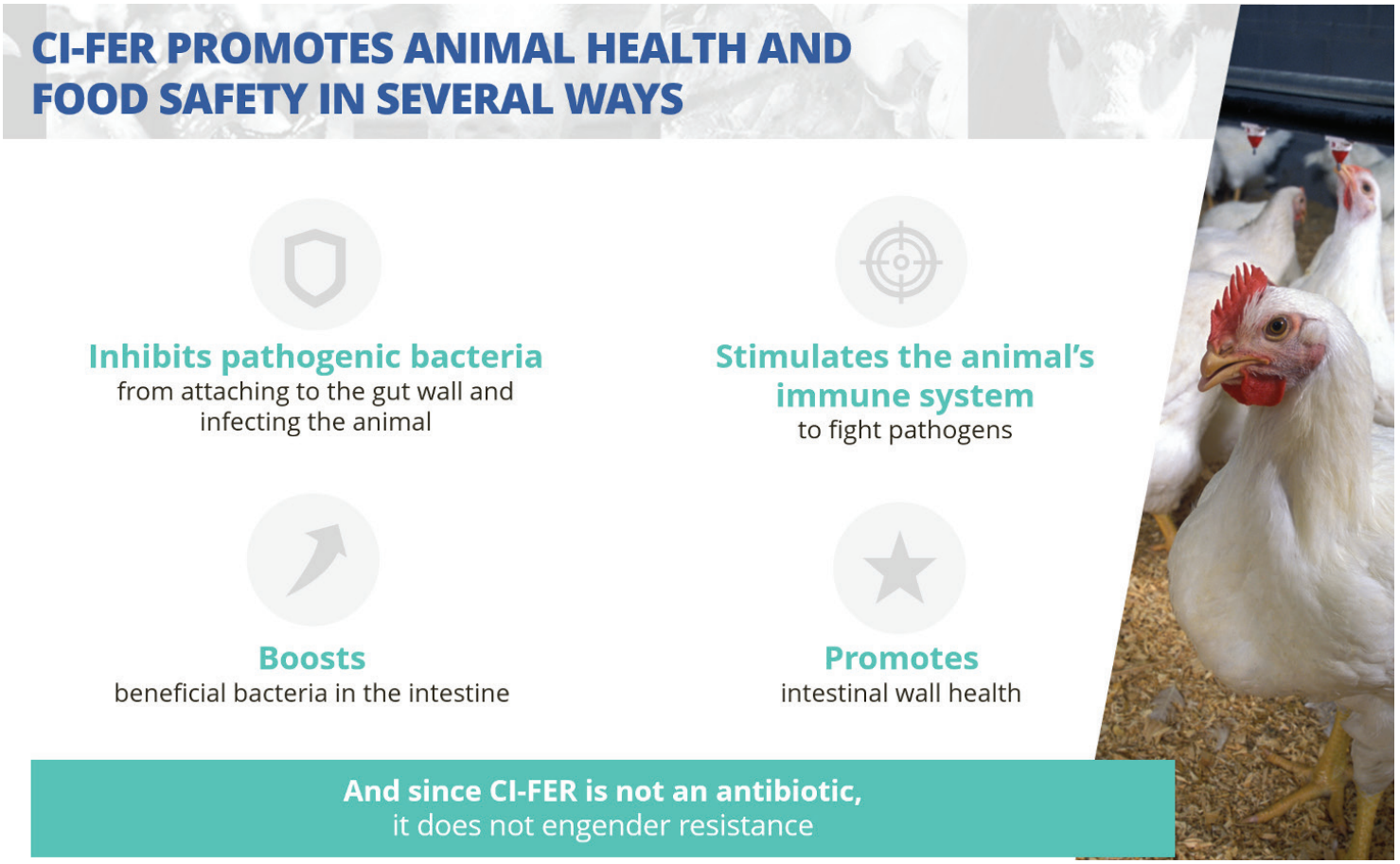
Vixiar Medical has designed, developed, and manufactured the Vixiar Indicor, a non-invasive device to help physicians manage congestive heart failure that affects 5.8M people in the US. A clinical trial is underway at Johns Hopkins. Thus far, the trial has enrolled 65 subjects with excellent results. Vixiar expects to complete enrollment of clinical trial at Johns Hopkins and submit a new 510(k) application to FDA by the end of the year.



Materials, Food Safety, and Analytical Instrumentation Portfolio

Products: Feed additives for farm animals that improve gut health and prevent bacterial infections using a broad-spectrum iron complex chemistry under tradename CI-FER®.

Value Proposition: Affordable, non-antibiotic feed additive that greatly reduces dangerous pathogens in poultry and other livestock while simultaneously increasing growth rate through better health of the animals.



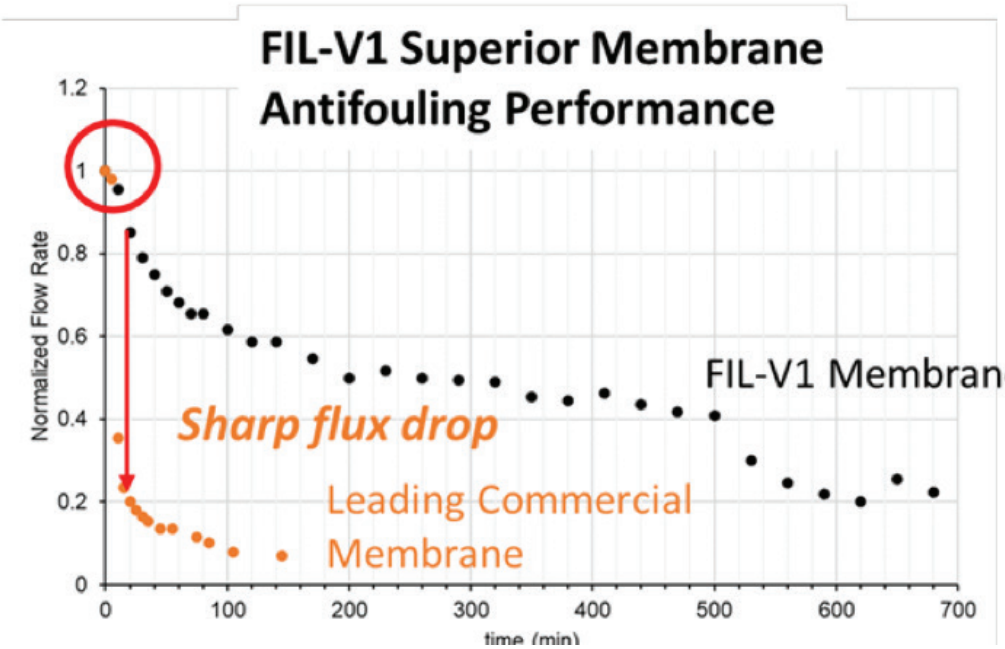
Akeso Biomedical reviewed all the CI-FER® poultry trial data that had been gathered to date, and concluded that a more consistent and improved product performance might be obtained if CI-FER was applied at a higher dose in feed. To test this hypothesis, a trial was arranged at Southern Poultry in Athens, GA, and performance was tested at higher doses. The result of the trial was highly informative, and showed that a higher dose of CI-FER was essential in older birds to provide the best performance, and also that more consistent and improved results could be obtained using a higher CI-FER dose than had been used in prior trials. During the last two quarters, Akeso has shared the new results of the Southern Poultry trial with potential acquirers and customers, including those that had previously evaluated CI-FER in trials. In addition, we approached a number of new potential customers and partners to solicit their interest in CI-FER. We are pleased to report that Akeso is in conversation with a shortlist of about seven companies. These conversations are at various stages from introductory discussions to evaluations of CI-FER, and negotiation of CI-FER pricing.

Filtravate™

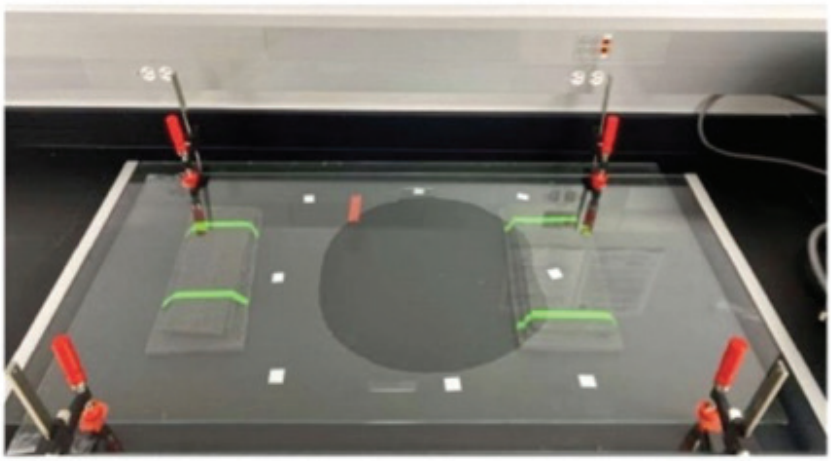
Products: Ultrafiltration membrane for protein purification, viral filtration, and continuous bioprocessing.

Value Proposition: Filtravate is developing paradigm shifting ultrafiltration (UF) membranes manufacturing technology that enables membranes to be synthesized from monomer building blocks instead of polymer. The membranes provide for greatly reduced rate of fouling and consistently higher performance than currently available alternatives.

Filtravate is working in the Department of Energy's Lab Embedded Entrepreneur program to scale-up by 20 fold the prototype production capability for its antifouling bioprocessing membranes. The work demonstrates the new mixing process's multi-kilogram process capability. Two casting methods are being tested for high volume manufacturability.



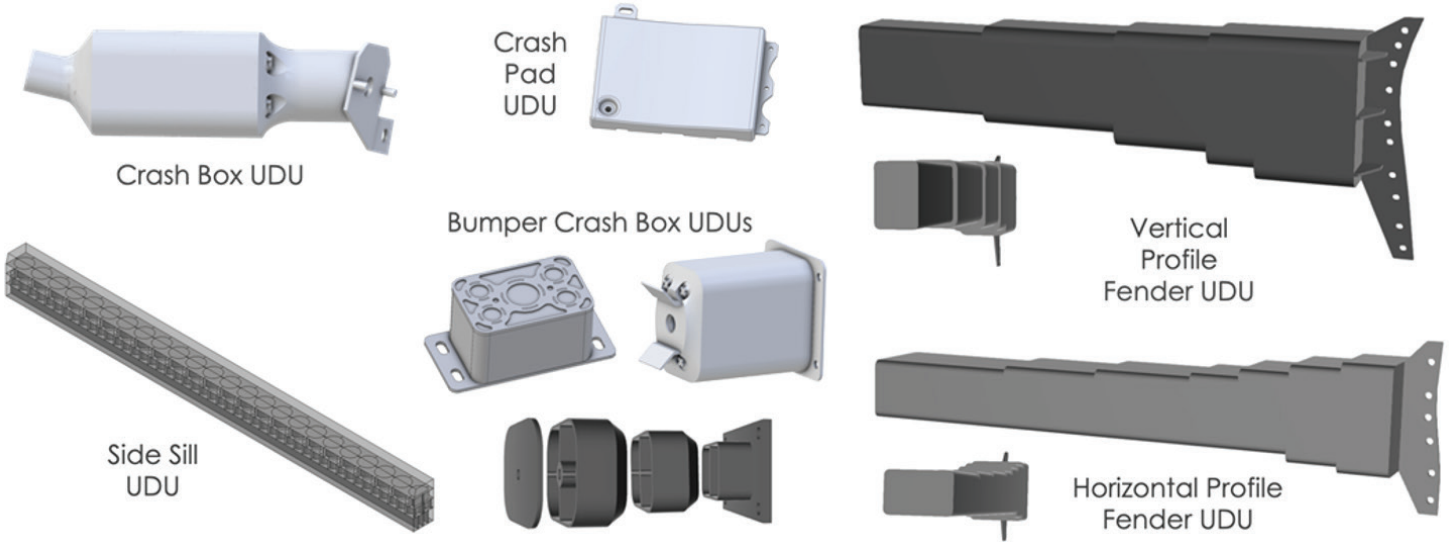
Also, there have been encouraging initial results on the new membrane development to separate the smallest virus from monoclonal antibodies (mAb). The project is supported by the National Science Foundation, and the formulation has been narrowed to two groups. More than two dozen market / customer/application conversations have been completed to help prioritize from the numerous applications for Filtravate's high performance membrane beyond the current focus market of viral clearance in monoclonal antibody production.



Tesseract Structural Innovations, Inc.™

Products: Energy absorbent structures for improving auto crash safety.

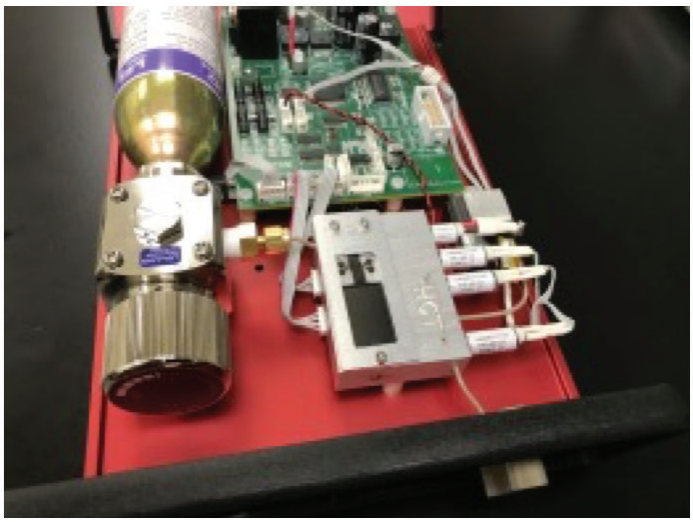
Value Proposition: Tesseract's UDU absorbs more energy by weight than any other approach to absorbing vehicle crash energy for passenger and battery compartment protection.



Despite rough economic cycles in the automotive industry, **Tesseract Structural Innovations** made excellent progress in the first half of 2023 working closely with two automotive companies on crash safety and electric vehicle battery compartment protection. One project is with one of the largest auto companies in the world with whom Tesseract is working on multiple vehicle platforms. The other project is with a young, innovative company introducing their first electric vehicle. Part design concepts for both OEMs proceeded rapidly from design to simulation testing. The project with the young company is moving the fastest. Physical part testing is planned in August. Auto parts testing is complex with test parts, test rigs, sensors, and high-speed cameras at a third-party testing company. Tesseract has a production line for the parts fully designed and ready to implement. That production line could be operational and producing initial parts within a year of production approvals. The line is being sized to handle the expected 20,000 initial part order and with capacity for growth. It is designed to be easily applied to other Tesseract part designs in the future.

Products: Miniature gas chromatography (GC) systems based on

Value Proposition: Microfabricated chips capable of multi-channel separations in a single package. Advantages include vastly decreased lower cost, versatility, improved sensitivity, portability, ease of operation and speed to results.



Zebra Analytix made good development progress in the first half of 2023 including refinement of the instrument, cartridges, production techniques, and validation of commercial applications. Zebra's MiniGCTM commercial prototype was upgraded with improved control firmware and software. These improvements allow the instrument to use either commercial gas chromatography columns or Zebra's patented MEMS column. The Zebra MEMS column can now be consistently produced and a static-coating technique provides for different stationary phases for our MEMS column which is important to broadening the scope of applications. The new coating technique also significantly improves the performance of the columns. Zebra's flow-through detector has been optimized with a new UV lamp drive. The test results show that the new detector has a better sensitivity than the previously used commercial detector. The custom UV lamp drive has been developed in the way that it can be embedded into any existing GC system. This detector development is the key component for an Intelligence Advanced Research Projects Activity (IARPA) project where Zebra is partnered with Virginia Tech University. For Zebra's Breath analyzer technology, which has broad applications for clinical diagnostics and personal health monitoring, a custom designed pre-concentrator was developed to target different compounds for breath analysis. The pre-concentrator provides an easy flow path for collection breath sample directly from the tester without losing any capture efficiency.

VIC Investor Network

Founders Group Member

- Invests into every new VIC portfolio company at founding
- Lowest valuation, highest upside, longer time for first return
- Diversification by number of companies and industry sector
- Limited to 50 membership slots

Standard Group Member

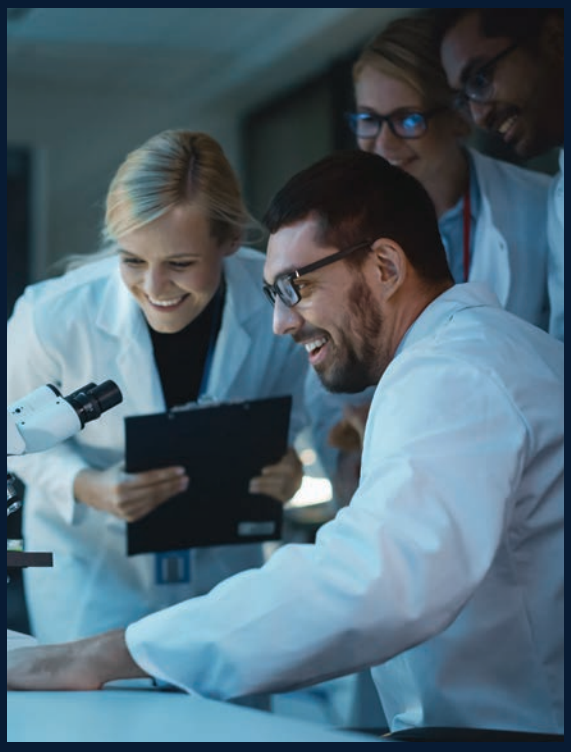
- Able to invest in any investment round after the founding round
- Good valuations, high upside, opportunity for fast return
- Diversification by number of companies, industry sector and stage of development
- Unlimited number of membership slot

The VIC Investor Network made four standard member investments in H1 2023 and continues to demonstrate outstanding returns for members with a combined 44% IRR across all investments made since inception of the network in 2013, based on current share prices in each company.

No new companies were formed in H1 2023 so there were no new Founder's Group investments. However, we anticipate at least two new companies to be added to the portfolio in the second half of the year.

VIC Foundry

VIC Foundry continues to establish its importance as a pipeline of new life science technologies that can become the basis for future VIC portfolio companies. The Foundry has an ongoing project funded by the National Institutes of Health (NIH) supporting the development of a microwave reactor for accelerating antibody-antigen bindings and protein digestion that can provide for ultrafast in vitro diagnostics, near real-time quality assurance for biomanufacturing, and high-throughput mass spectrometry analysis. It also recently received a new Phase I SBIR award for development of a microbial concentration and recovery technology that can significantly improve sample preparation techniques required for distributed environmental or food testing, thereby helping protect the public's health. A multitude of other projects are pending and being studied.



VIC Fellows

Our 2022-23 class of VIC Fellows recently completed their Fellows term. Each year's class of Fellows comprise scientists, MD's, and life science executives. VIC Fellows gain valuable experience in evaluating life science technologies as potential intellectual property foundation for new startups. And VIC gains the talent and experience of the Fellows, as part of our opportunity assessment team, to help sort through the hundreds of new life science technologies that VIC evaluates each year. The 2023-24 class of Fellows will be announced in August.

Concluding Remarks

Looking ahead, the fundraising climate remains challenging nationwide with venture capital investment down dramatically from 2022 levels. Non-dilutive funding, such as SBIR and STTR grants, can make up some of the difference for the portfolio companies. That is also advantageous in terms of minimizing dilution but does tend to stretch out time frames compared to private investment.

Dramatic life science advancements are emerging that are likely to transform healthcare over the next 20 years. For example, continued rapid progress of cell and gene therapies will offer a complete cure for a wide variety of diseases. Major shifts in how disease and injury are diagnosed and treated will upend current business models in both biopharma and medtech. There will be more emphasis on prevention and more personalized treatment options. Personalized treatment will be simultaneously more effective and come with many fewer unwanted side effects.

There are now already over a thousand life science companies developing new cellular and gene therapies and that is just one of the life science areas showing rapid acceleration. Much of the innovation is being done by young companies. Companies focused on these growth areas have a unique opportunity to deliver substantial value to shareholders and, ultimately, to society. VIC Tech has built a strong nationwide ecosystem for the creation and development of high impact life science companies. We are grateful to our shareholders for their participation in this unique opportunity.

RCGoforth

R. Calvin Goforth | Chief Executive Officer