



Invnt

Our Portfolio Projects

The projects below represent UJInvnt's IP that has not yet been spun out. Browse the portfolio and identify projects that align with your interests.

Bottle Connector

Opportunity: Spin-out

A simple threaded connector that turns two stacked bottles into a gravity-fed water filtration system. The bottle connector features threaded ends that attach to standard bottles, with a central chamber designed to hold a filter. When one bottle is positioned above another, water flows from the upper bottle through the filter and into the lower bottle, enabling low-cost, portable water filtration using readily-obtainable plastic bottles.



Coal Analysis

Opportunity: Spin-out

A rapid, reagent-free method to assess coal quality, enabling real-time decision-making. The technology uses a proprietary photon irradiation process to briefly and safely activate a coal sample at the atomic level, triggering natural nuclear decay processes unique to the sample's oxygen and carbon content.



Eartha™ Herbal Tinctures

Opportunity: Spin-out

Optimized herbal tincture formulations for multi-target wellness support. EARTHA™ is a scientifically-developed range of herbal tinctures addressing high-demand wellness categories including, Liver health, stress and energy, sleep and calm, memory and study focus, immunity, inflammation and joint support, as well as kidney support. The multi-herb formulations are grounded in laboratory research and these approaches support the development of reproducible, efficacious and differentiated herbal products.



Integrated Apparatus for Preparation and Application of Foliar Sprays

Opportunity: Spin-out

A precise bicarbonate foliar spray device for enhanced plant health. The technology is a device that automates the preparation and delivery of a bicarbonate-based foliar spray. The novelty lies in its ability to precisely prepare and deliver a nutrient-rich solution that can potentially boost plant growth and resilience, all while ensuring the solution remains stable and effective during application.



Gibberellin Biosensor-enabled Test Kit

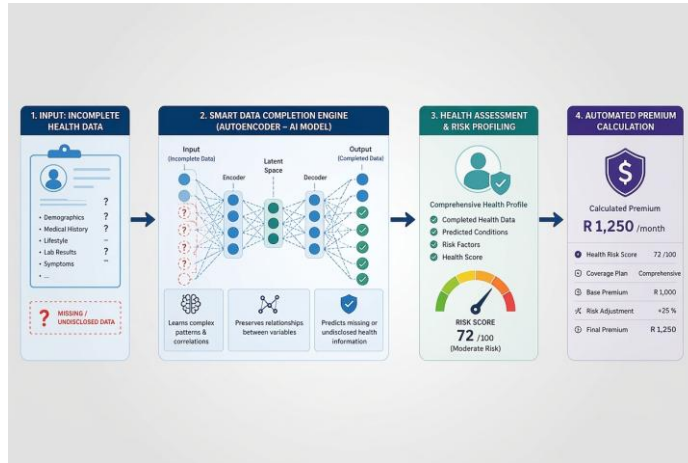
Opportunity: Spin-out

A rapid ligand binding diagnostic test for gibberellin detection. The invention relates to detecting gibberellins in barley which uses aptamers to detect gibberellins directly in barley seeds, without the need for dedicated analytical instrumentation. The technology is designed for point-of-use application and enables rapid, low-cost, and accessible testing, making gibberellin detection more practical for field, quality control, and research settings.



Smart Data Completion Platform for Health Assessment and Automated Premium Calculation

Opportunity: Spin-out



A system and method for inputting missing data in a dataset, determining the health condition of a person, and calculating an insurance premium. This invention introduces a smart computer system that can fill in missing health information through advanced algorithms called autoencoders. The system further leverages a person's existing health data to intelligently predict undisclosed or missing health conditions, preserving the intricate correlations between variables to deliver accurate, data-rich profiles even from incomplete inputs.

Mobile Water Testing Lab

Opportunity: Spin-out

The invention is a Mobile Water Testing Laboratory, which is a trailer-based, solar-powered analytical platform, that incorporates roof-mounted solar panels, a backup generator, and a battery bank enabling autonomous operation in off-grid settings

An HVAC system is installed to maintain temperature and humidity within appropriate ranges for microbiological and molecular assays, coupled with various analytical instrumentation capabilities. The technology offers holistic, laboratory-grade on-site testing across multiple analytical domains, and faster turnaround times, and offers an integrated SANS-241-aligned portfolio combining microbiology, chemistry, and molecular diagnostics with dashboard-based reporting.



Patient Transport Apparatus (3-in-1 Convertible Patient Transport Apparatus)

Opportunity: Spin-out



The 3-in-1 convertible patient transport apparatus consolidates three essential pieces of medical transport equipment: stretcher, wheelchair, and stair chair into a single, adaptable device. Independent adjustment of the patient support surface and wheel arrangement allows the device to adapt to a wide range of clinical and emergency scenarios, improving both transport efficiency and patient safety in challenging environments such as multi-story buildings or confined spaces, and therefore reduces paramedic related injuries, patient injury risks, medical negligence claims and device misuse.

Plug Bolt

Opportunity: Spin-out

A bolt designed to protect expensive equipment from the costly damage caused by over-tightening. The invention introduces a new type of plug bolt designed to prevent damage to the devices it secures, like air-cooled heat exchangers, by breaking if over-tightened. It features a special weakened section that ensures it will fail before causing harm to the threads of the device, thus avoiding costly repairs or replacements. This does not only protect equipment but is also easy to manufacture and use, making it a practical improvement over traditional plug bolts.



Portable Water Filter

Opportunity: Spin-out



A pump-free water filter that combines filtration and storage into a single, portable unit. This two-compartment container separates unfiltered and filtered water, using a built-in filter and one-way valve to ensure clean, one-directional flow. No pumping required. The simple, combined design makes it affordable, user-friendly, and practical for everyday use or outdoor activities.

Alkaloid Extraction and Processing

Opportunity: Spin-out

Local extraction and processing of alkaloids from botanical source. This innovation provides a validated process for extracting and processing tropane alkaloids, principally scopolamine, atropine and (–)-hyoscyamine, from a locally available botanical source. Scopolamine has established pharmaceutical applications, including the prevention of motion sickness and postoperative nausea, while atropine and (–)-hyoscyamine are also used in other pharmaceutical preparations. Validation work has been undertaken with a technology development partner, and the innovation may support further research into additional formulations and applications.



Self-glazing Ceramics

Opportunity: Spin-out

Self-glazing ceramic formulation using locally sourced clay and mineral additives. The invention provides a mixture and method for producing self-glazing ceramic articles.



Traffic Flow Management

Opportunity: Spin-out

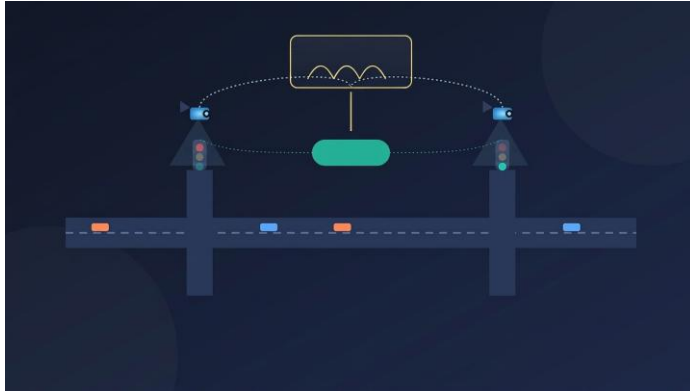
Intersection group-based traffic flow optimization control method. This invention addresses a key limitation in current urban traffic control systems: the minimum control unit is typically a single intersection, which cannot adequately capture or respond to the interdependent traffic patterns across neighboring intersections. The method operates using real-time traffic data at an intersection and uses a intelligent optimization control model and a controller, together, to dynamically manage traffic flow across the intersection group.



Traffic Signal Control

Opportunity: Spin-out

Video-based phase difference fuzzy inference method for traffic signal coordination. This invention provides a video-based method for determining the optimal phase difference between two coordinated traffic signals, using fuzzy inference to reduce vehicle stops and improve overall intersection efficiency.



Vehicle Detention at Intersections (Smart Intersection Congestion Alert System)

Opportunity: Spin-out

A smart intersection congestion alert system. This technology prevents gridlock at busy intersections by detecting vehicle queues in real-time by employing sensors which monitor traffic both within the intersection and on the downstream road segments preventing traffic congestion using a visual warning signal. This solution reduces intersection blockages, improves traffic flow, and offers a scalable, low-cost upgrade path for smart city infrastructure and traffic management systems.



Vertical Kiln

Opportunity: Spin-out

A vertical kiln clinker production technology, and a process for producing clinkers, the essential input material in cement manufacturing. This technology offers an alternative to traditional rotary kiln systems, with potential advantages in capital cost, energy efficiency, and footprint, making it well-suited for smaller-scale or decentralized cement production.



GET IN TOUCH

Are you ready to explore a partnership?

Whether you're interested in licensing, learning more about our projects that are ready to be spun out, or discussing other options, we can structure an arrangement that meets your goals.

Book a consultation

www.ujinvnt.co.za

Email us

info@ujinvnt.co.za

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