

Company Name	Application Title	Type	Description of Technology
Turner Innovations	3D Dental Imaging System	Small Business	Turner Innovations proposes to develop a 3D intra-oral x-ray imaging system for use in dental diagnostics. This simple and easy to use system will allow dentists and dental technicians to improve caries (cavity) detection, crack detection, perform implant planning on single teeth, and improve imaging for root canal procedures. All of this will be done at much lower radiation dose to the patient than other 3D imaging techniques, and at a much lower cost to the dentist and the patient.
Thermal Management Technologies	Battery Thermal Management	Small Business	The technology consists of an air tight case in which closely packed cells of any desired shape are immersed in an environmentally benign, non-conducting, fire retarding, fluid engineered to boil at low temperature. Heat released from the cells/wires/ junctions is readily absorbed as liquid is converted to vapor. The vapor bubbles quickly make contact with a cooled wall/lid of the case and condense thus releasing the captured heat into the outside air or a circulating coolant from the vehicle AC unit. Included is a simple system to effectively reject air from the enclosure while retaining the condensable vapor. This system is unique in that internally generated heat is quickly transferred to outside the case and, in addition to being immersed in an effective fire suppressant; all cells are maintained at a uniform temperature far below ignition thresholds and in an oxygen free environment. This eliminates the possibility of fire.
iVeena, LLC	Biodegradable Ocular Implant	University	The Biodegradable Dexamethasone Implant (BDI) is a small, degradable insert placed intraocularly at the time of cataract surgery that reduces post-operative inflammation by sustained release of a corticosteroid eliminating the need for post-operative topical drops, thus enabling drop-free cataract surgery. The BDI is comprised of poly lactic glycolic acid (PLGA), the active ingredient dexamethasone (DXM), and an excipient to control the rate of release of the DXM. Two BDI formulations are under development, a 2-week DXM releasing implant that is intended for prophylactic inflammation reduction in all cataract patients and a 4-6 week DXM releasing implant that is intended for higher-inflammatory risk cataract extraction. A major advantage of the BDI is the simultaneous delivery of therapeutic concentrations of DXM to both the anterior and posterior segments of the eye, safely suppressing inflammation and preventing posterior segment complications, including swelling of the retina.
Mommi	Clean prenatal protein blend	Small Business	Mommi has created a supplement for pregnant women that includes 15 g of protein, 200 mg of DHA, and a full prenatal vitamin. When taken with milk, it accounts for nearly all the extra nutrition a woman needs when pregnant (25 g of protein, 300 calories, plus vitamins and minerals). Protein, minerals, vitamins, and DHA (fish oil) contain naturally occurring heavy metals. Heavy metals are known to cause birth defects, learning disabilities, and other problems for growing fetuses. Mommi 3-in-1 contains a very low level of heavy metals and passes the most stringent global standards, including California Proposition 65. It took Mommi and the Twinlab science team about 6 months and 9 iterations to develop a formula with such a low heavy metal count. Other manufacturers Mommi worked with didn't think it was possible. There is no similar product in the market that meets the same stringent standard; similar products are only sold online as a result.
Espira Inc	Fast Diagnostics	Licensee	Espira has developed a novel pathogen detection device. Using a unique combination of advanced technologies, our detector goes beyond lab culturing of indicator coliforms and E.coli by detecting a suite of specific bacteria, protozoa and viruses in the same test. Total organisms and viable organisms are separately reported for each pathogen. A typical test cycle is under 2 hours. This includes automated sample collection, concentration, and detection and can be operated by minimally trained personnel. Espira's detector is fully automated, robust and versatile in nature and quantifies organic content of the effluent in less than 1 hour. Espira has received a Phase I Navy SBIR to rapidly detect pathogens.
Spectra Symbol	MagnetoPot Sensor	Small Business	AST (Above Ground Storage Tank) owners want monitoring systems for: safety, environmental compliance, leak detection, overflow prevention, automated alerts, inventory management, and real-time data (npnweb.com). This is accomplished with expensive or ineffective options, such as magnetostrictive, laser or Reed Switches. Spectra Symbol's MagnetoPot 2 technology measures liquid level in an oil tank with stable electronic components. The difference our patented and patent-pending tech offers compared to other technologies is two-fold: 1. It is less expensive by half 2. As covered by the patent-pending claims, it is able to detect two levels of liquid. This is important for oil tanks because oil is lighter than water. Water can fill up in the bottom of tanks and cause problems in calculation of fill level, in contamination, in overall operational efficiency for the oil well operator. So for half the price, oil tank companies can get double the value in a single linear sensor.
Mapps Lab	Mappivities	Small Business	Mapps Lab LLC presents Mappivities, a web based application that has the ability to replace the paper map in every K-12 classroom with an interactive portal for authentic learning and educational transformation. Students can build interactive maps with photos, videos and writing on almost any subject: the distance that they travel around the neighborhood, the timeline of the Roman Empire, the demographics of the state, even maps of poetry inspired by place, all geared to be customizable by the classroom teacher to meet required learning goals. These maps also become tools for assessment replacing some standardized testing. Tested and proven with over 2,000 students, first to market, and with substantial institutional and corporate support Mappivities is positioned to become a presence in every school in America and beckon to the international marketplace. Brought to you by the people that created and commercialized the largest teacher training in US history (800,000 in the 1990s).
PAMS	Memory Care Partner	Small Business	Family members are often at a loss to obtain quality care for loved ones with memory loss. Enter PAMS, Inc.'s unique solution The Memory Care Partner (Partner) - an innovative, personalized mobile technology application to help those with a memory concern identify needs and navigate the healthcare system. Partner is an accessible and interactive guide to high quality care from first concerns about memory through each phase of a progressive dementing disease with checklists, informational sidebars and local resources. Using Partner the care team can monitor progress in achieving management goals and actively participate in dignified and respectful care that provides a high quality of life. It is unique in the marketplace in being proactive-based and providing a customized guided approach, ease of navigation, a pleasant interface, targeted advice, and putting the patient and family in control when dealing with memory health needs.

SimPayX	Mobile Collaborative Commerce	Small Business	SimPayX is building a universal mobile shopping platform which allows customers to shop and pay while doing in person shopping. While walking into a coffee shop in the morning Amy gets the menu on the mobile device, selects the cafe latte and pays. During lunchtime while closer to the drive thru Amy's mobile gets the restaurant menu. Amy selects and pays. SimPayX technology also allows Amy to shop at the unattended systems like vending machine and car wash. Providing a very convenient way to shop at any in person shopping locations with a single app and ability to avoid the lines is a new and unique 'mobile collaborative commerce' market space! This experience is made possible by SimPayX's patent pending technology called as 'Dynamic Menu Generation (DMG)'. None of the payment data is stored on the phone or transferred to the Point of Sale which makes SimPayX a very 'secure' shopping platform. SimPayX uses Reverse Authorization (rAuth) technology (patent pending) to make this happen.
Mobile Health Inc.	Mobile Health	Small Business	MHT is bringing to market a first of its kind, diabetes mobile-centric, social health platform that assembles all the key constituencies to lower costs, improve data and information sharing, improve medication adherence, increase margins and enable better health outcomes for patients. Joining together in one Smartphone application, partners include Pharma companies, insurance companies, healthcare providers, pharmacy chains, fitness providers, groceries, etc. Additionally, individuals using the application would be able to utilize diet and exercise programs, blood glucose logging, secure instant messaging with medical providers, get community information, reorder prescriptions and supplies, and incorporates a behavior intervention program for improving the health of individuals.
Applied Biosensors	Multi-analyte biosensor	Small Business	This technology merges two highly established techniques (smart hydrogels and magnetic sensing) for the first time to create a novel microsensor that can continuously monitor almost any biomarker (e.g. glucose, pH, CO ₂ , O ₂ , trace metals, etc.) in liquid media. Researchers have known for over a decade that smart-hydrogels are bound to revolutionize the sensing techniques and will (1) overcome the limitations of current commercial continuous sensors (2) address the untouched market need in several industries such as bioprocess control, animal research, water quality management, etc. The biggest limitation has been in the methods to transduce the response of hydrogels into readable values. Groups around the world have used several transduction techniques without much success. We have successfully proven for the first time (& IP protected) that when smart hydrogels are embedded with magnetic particles, the response of the hydrogels can be accurately measured using a low-cost magnetometer.
University of Utah	Nanopurification of Air	University	The Nano Air purification device uses a photocatalytic method for degrading volatile organic compound emissions from point sources such as storage tanks found in the Uinta Basin. It is a simple passive device that utilizes sunlight to drive the reaction. Current solutions to this technology are burning flares and vapor recovery units. These are expensive and result in other pollutants that can potentially degrade the quality of air. The Nano Air Purification device uses a novel nanomaterial developed at the University of Utah to degrade these emissions at a significantly lower cost than current technologies on the market.
Witting Innovation LLC	Smart Tank: Breath Simulator	Small Business	Capnometers (CO ₂ analyzers) allow clinicians to monitor patient health during sedation and anesthesia and are becoming increasingly more utilized and relied upon during critical care procedures. Failure of a capnometer can be life threatening. One out of every hundred incidence reports involving capnometry is attributed to capnometer malfunction and could have been prevented if the capnometer was functioning properly. Current calibration procedures and equipment are not capable of detecting malfunctioning capnometers. We are developing a portable device that will test capnometers to make sure they are performing correctly and are safe to use. The device will dynamically simulate a patient's breath and test other key elements of a capnometer. The ability to detect capnometer failures under real world conditions will improve patient safety as well as increase standardization of testing procedures and decrease testing and calibration costs.
Progenitor Life Sciences	StemCell Reprogramming Systems	Small Business	The Technologies in development by Progenitor are focused on cellular reprogramming, genomic profiling, and control of differentiation into tissues/cells of desired function. The Matisse™ reprogramming system reprograms normal human or animal somatic cells into iPSCs. Matisse™ is unique in several ways: it provides improved quality and homogeneity of iPSCs and is easier and faster to use. Being footprint free, Matisse™ can produce safe, patient specific stem cells. State assessment products provide a unique opportunity for quantitative analysis of reprogramming and differentiation processes not provided by current assay technologies. The company is developing and licensing specific content to be used in the qualification of cells for use in assays and as therapeutics. Because of the improved quality of Matisse generated iPSCs researchers are better able to obtain cells with desired functions.
University of Utah	StreamDX-Uroflowmeter	University	StreamDX™ is a mobile at-home uroflowmeter, which enables urologists and Primary Care Physicians (PCP) to make more informed therapeutic decisions at lower cost and reduces the rate of preventable ER visits. StreamDX™ works by measuring the change in capacitance that occurs when the fluid height within the container changes upon urination. Our device uses a sensing capacitor, battery powered measurement circuit, wireless data transfer to mobile device, and a data display application. The StreamDX™ at-home system works by collecting urine flow data and then transferring to a communication interface with our servers and then downloading the data to a patient's electronic medical records in an easy to read and interpret display. Finally, the StreamDX system allows access to patient uroflow data, diagnostic predictions, patient notifications, and emergency patient condition warnings. Unlike other devices on the market which cost \$20,000 or more, our device can be manufactured for \$30.
Argo Fuels	Supercritical Biofuel Reactor	Small Business	Traditional biodiesel production uses a process called transesterification which combines expensive, highly filtered and purified oils (i.e. canola, corn, safflower oils, etc.) with methanol and a chemical catalyst (usually lye). This process yields methyl esters (biodiesel), glycerine, excess methanol and catalyst, and water. Argo Fuels has found a way to increase the efficiency of traditional biodiesel production methods using highly controlled environments, recyclable catalysts, and other technological innovations that streamline the process. These innovations have resulted in production speeds of up to 30 times faster the traditional process as well as a condensed form factor utilizing less energy and less real estate. Possibly the best thing about these innovations is that an Argo Fuels processor thrives on utilizing waste fats, oils, and greases (FOG) that are up to 100% free fatty acids (FFA) that are unused by other companies because of their need for pre-processing.

NanoSynth Materials and Sensors Inc.	TB Breathalyzer	Small Business	The tuberculosis (TB) breathalyzer provides an immediate TB diagnosis by detecting the unique biomarkers in a patient's breath that are only present in an active TB infection in the lungs. This sensor uses a nanotube array that accurately detects these biomarkers and produces an identifiable electronic signal when they are present in a patient's breath. Once a diagnostic result is generated, this result will be aggregated with demographic and other relevant information to an analytics platform that can map TB cases and emerging trends in real time. This technology is unique as it generates a TB diagnosis using only breath and automatically collects and maps disease relevant data in real time. Overall, this is a diagnostic test that is easy to use, affordable, and generates real time disease information that can be used by public health-related organizations to track and manage TB.
LIYEN Inc.	The Slyder - asthma spacer	Small Business	Over 25 million Americans have asthma, and use a metered dose inhaler (mdi) to treat and manage their respiratory conditions. If the inhaler is used correctly, only 10-20% of the medication is effectively delivered into the patient's lungs. When an inhaler is used in combination with a spacer device, drug deposition increases to 50+%. However, spacers have not changed in over 35 years, and are seldom used due to inconvenience and poor design. This non-compliance attributes to 9 deaths, and 9000 ER visits daily due to asthma attacks. The financial burden associated with asthma is estimated to be 18 billion annually. For asthma patients looking to control their condition, LIYEN Inc. offers the Slyder—a uniquely integrative inhaler spacer that mimics the look of an iPhone case, doubles as an inhaler carrying case and enables users to customize their spacer design. Now asthmatics finally have an empowering device that has been created by an asthmatic, for asthmatics - and looks cool too!
Digithought	Weedobot	Small Business	Weedebud is a small, low-cost robot that uses artificial intelligence to find and destroy weed sprouts from a flower or garden bed before they grow into full-fledged nuisances. This softball sized robot is turned on and placed on the kind of surface it should stay on. Using solar power and its advanced computer vision system, it will tirelessly seek out and destroy weed sprouts. In cloudy areas, the solar power can be augmented by plugging in for an overnight charge. Weedebud is the first mass-market, consumer-grade robot for horticulture. By focusing on a small but important home and garden problem, Weedebud appeals to lower spending, impulse-buyers as well as more serious gardeners. The labor savings for organic gardeners is clearly appealing, but over time the product is also cost-competitive with herbicides.