

FY 2014 Round 3 - TCIP Grant Awardees

Institution	Licensee/ University	Cluster	Application Title	DESCRIPTION OF TECHNOLOGY
U of U	Licensee	LS	Applied Biosensors	<p>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, CO₂, O₂, 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) over come 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.</p>

USU	Licensee	LS	FNC Aquaponics	<p>This technology is a sustainable food production system utilizing an aquaponics approach. Aquaponics is the combination of Aquaculture and Hydroponics for a closed loop system that minimizes inputs and maximizes both land usage and food production rates. As the fish eat and grow, they generate waste that must be filtered from their water. This water is sent through a series of properly design plant grow beds. Not only does the fish waste provide the necessary nutrients for plant growth, but the plants effectively filter the water so it may be returned to the fish tanks. This approach uses 10% of the water required in traditional farming, as well as a 4-5x greater yield due to efficient space usage and nutrient availability. A greenhouse is incorporated in the design to allow for year round productivity.</p>
U of U	Licensee	IT	Sentius	<p>Using principles of real-time systems and data analysis on existing data, Sentius provides customers with up to date, actionable information and forecasting designed to increase company profitability. Delivered via an online SaaS-based solution, this will initially target independent dental and healthcare practices. Raw event, transactional, operations, financial, and marketing data is extracted from existing sources and input in real-time into Sentius, where it is then analyzed, producing outputs that propose changes to company operations, marketing, and finance to increase profitability. In addition, customers are given industry and demographic specific benchmarks to help them better compete in their respective markets. This data is currently nearly impossible to obtain for many SMBs. For example, for medical/dental providers, understanding insurance reimbursements and fee schedules for other providers in their geographic area will allow them to compete much more effectively.</p>

U of U	University	MMEE	SolaPur Device	Our technology removes contaminants and disease-causing agents in water using solar irradiation. It is a portable water purification device that removes all necessary contaminants without an external energy source or additional replacement components.
BYU	Licensee	IT	SVWI	Our technology is a genetic algorithm, ECO Feature (Patent Pending), that sorts based on different classifications. It was developed by our principles during their Ph.D program at BYU, and we just completed a licensing agreement to license the technology for commercial use. It is incorporated into our custom Vision Automation System, and attached to an assembly line. In testing we applied the algorithm to a variety of applications including but not limited to people (sorting male vs. female), fish (sorting protected or invasive fish from a general population), oysters (grading shell size and quality), and apples (distinguishing insect infestation). At the end of 2013 we incorporated as Smart Vision Works International LLC, and in 2014 we licensed and launched the technology for commercialization. It is currently being used by two customers of ours, DatePac to sort dates, and Laitram Machinery where it is used for shrimp peeling and de-veining quality control.

U of U	University	LS	Vessel Coupling	<p>Our product is a vascular coupling device designed to join blood vessels. Our device works for both arteries and veins and can rapidly connect the two vessel ends together in a watertight seal without leaving any foreign material in the lumen to come in contact with flowing blood. We have manufactured prototype devices using biodegradable poly (lactic acid) (PLA) with no moving or metallic parts in multiple sizes to accommodate varying vessel size in a range of transplant scenarios. Our proposed vascular coupling device (VCD) would replace the manual suturing technique, reduce the time required to complete the anastomosis, and reduce error. VCD will have less chance of tearing the vessel wall by misplacement of the pins compared with Synovis Coupler.</p>
--------	------------	----	-----------------	---