

# NEW STARTUP COMPANIES AT Utah State University

## Andigen

One of USU's startup companies, Andigen, continues to rapidly land new customers and build anaerobic digester facilities. This technology, established by the Utah Center of Excellence under the direction of Conly Hansen and Ed Watts, generates electricity and provides for the rapid and efficient transformation of animal waste, allowing greater land productivity and reduced air, ground, and water contamination. Three new facilities have been constructed in the last few months.

## CastleRock Engineering, Inc.

CastleRock, a new startup company in Logan, Utah, has licensed USU technology called aerodynamic vectoring particle separation, which has the ability to sort tiny particles by size without ever coming in contact with them. Particle sorting is an important task in many areas, including bioprocessing, powder material processing, sample concentration, cell sorting, and air quality monitoring, so the commercial applications are very broad. Compared to current methods of particle sorting, CastleRock's technology improves accuracy and throughput, thus significantly reducing the cost of sorting operations. CastleRock has recently secured a STTR grant from the National Science Foundation to further develop this technology.



## Gemini

Started by USU professor John Carman, Gemini has recently been awarded a \$2 million federal grant to further develop its seed technology. The process, called apomixis, creates base crops—such as sorghum, wheat, and rice—that clone themselves. It has the potential to significantly increase crop yields, thus lowering domestic feed/food production costs and helping developing countries increase their food supplies.

## Kuchera

Kuchera defense, a Pennsylvania corporation, signed a license agreement with USU for manufacturing and sale of USU-developed ODIS (Omni-Directional Inspection System) robots. Deployed in Iraq, Afghanistan and Washington D.C., the ODIS robots are credited with saving lives and are planned for expanded use in the war against terror. ODIS robots are low profile, high mobility robots that employ a camera enabling a fast and complete inspection of the underside of vehicles for contraband materials. Twenty are deployed in Iraq and Afghanistan, and the robots are also being used in key Washington, D.C., parking garages.

## LiveWire

LiveWire Test Labs, Inc. creates technology that locates intermittent faults on live aging electrical wiring for safety, reduced down time, and reduced maintenance costs. Virtually every system we use today relies on electrical wiring for power and control, including those in transportation equipment, communication infrastructure, consumer products, nuclear power plants, and large industrial machinery. When this wiring ages, it may become brittle, crack, and break. Failures in these systems can be costly or catastrophic. LiveWire technology uses Spread Spectrum Time Domain Reflectometry (SSTDR) to locate intermittent faults, which are among the most challenging to detect and fix in large systems, because their failures can only be detected at certain times. A very tiny pulse is sent down the wire, where it reflects off of the faults and returns to the test sensor, which can determine where the fault is occurring.

## RappidMapper

USU researcher Robert Pack has created a Texel (text-element) camera using a tripod based instrument to make

3-D photography possible. Utah State's Center of Excellence (Center for Advanced Imaging Lidar) licensed its 3-D camera technology to a Salt Lake City-based company, RappidMapper, Inc. The technology can be compared to computer hardware and software. The camera is the hardware, while LIDAR is the software. The camera technology captures a 3-D view of a scene using LIDAR (which stands for light detection and ranging.) With LIDAR, it is possible to measure distance, speed, rotation and chemical composition and concentration. When the digital camera is "married" into the LIDAR system, a 3-D image is produced.

## SP Communications

SP Communications, a Utah-based startup company, is licensing USU technology that eliminates the echo that is created on a speaker phone or cell phone when two people talk at the same time. SP Comm. hopes to produce a speaker phone and cell phone that do not have these double-talk problems. This same technology can also make it possible for a person with hearing aids to hear someone he is talking to when there is background noise, and this avenue is being explored by another large, Utah-based company.



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