Prepared by VentureNashville, 21 March 2011

4D Medical Systems (Oak Ridge) Visualization Decision and Support Solution -- Joseph Ortiz told VNC, in part, "The TTDC funding support will allow us to offer a more robust and complete solution to our dermatology, cosmetic, vein, wound care, and weight loss target healthcare segments. With these funds we expect to capture a larger share of the market and more quickly begin development of our next generation visual decision support solution." **Focus:** To support the development and launch of a Visual Decision Support Solution to analyze images collected in healthcare-related activities, enabling providers to incorporate photographic data into patient records, using initially 2-D and later 3-D imaging technology.

Foundation Instruments (Collierville) An Inexpensive Kit For the Analysis of Two Regulated Drinking Water Disinfection By-Products – Gary Emmert, Ph.D., told VNC in part, "Foundation Instruments will use the TTDC funds to conduct a beta test with partner water utilities from around the country so that we identify any issues with our analysis kit prior to a national release in November 2011. We will leverage the TTDC funds to gain additional funding from the National Science Foundation, NASA, Water Research Foundation and the American Water Works Association." **Focus:** To develop a low-cost drinking water contamination test kit that will allow facilities to measure contaminants in the home.

LED North America (Oak Ridge) Advanced Thermal Management of LED Luminaries Using Carbon Foam Technology – Andrew Wilhelm told VNC, "The Tech Maturation Grant will allow LED North America to manufacture a 90W indoor commercial LED light that can replace the 400W metal halide fixtures commonly found in warehouse and manufacturing facilities. These 90W luminaires will incorporate a graphite foam technology developed by the Oak Ridge National Laboratory that extends the life of the luminaire's LED light engine and driver. As such, we can offer a 10 year warranty on this product and reduce energy consumption by 80%." **Focus:** To develop a LED-based, energy-efficient lighting system that is capable of cost effectively replacing current commercial lighting solutions.

Nutraceutical Discoveries (Knoxville) Innutria, weight management solution For Pets -- Michael Zemel, Ph.D., said, "We developed Innutria as the first truly science based nutraceutical ingredient with significant human anti-obesity activity with rigorous clinical trial support. We are still a small company, and TTDC maturation funding comes at a critical time to enable us to apply equally rigorous science to adapt this technology to the growing pet obesity epidemic." **Focus:** To test the effectiveness of its nutraceutical product, Innutria, as a weight-loss additive that helps obese pets lose weight.

Phenotype Screening Corporation (Knoxville) Advanced Plant Characterization For Crop Improvement – Daniel McDonald said, in part, "The grant we have received from the Tennessee Technology Development Corporation will be used to consolidate sophisticated analysis software we have developed in the laboratory into a comprehensive commercial product. The grant allows us to accelerate introduction of this new product by one year and maintain a leadership position over international competitors. We predict that with early introduction of this product we will experience nearly one million dollars in increased revenue over the three years following introduction." **Focus:** To develop an automated system to rapidly evaluate the roots of crop variants using an established low-energy, X-ray imaging technology. (Continued)

The University of Tennessee Research Foundation (Knoxville) Novel Bioluminescent Cell Lines For Advanced Biomedical Imaging Technologies -- To develop cell lines with bioluminescence properties that enable a lower cost, more robust pharmaceutical screening and reporting platform. A TTDC document said, in part, “This new reporting mechanism improves upon the current technologies by not requiring the addition of expensive substrates and by providing real-time as opposed to time-point-based output. The award is intended to fund development of the cell line to better tune its properties for effective use in pharmaceutical screening applications.” Contact: Gary Sayler, Ph.D.

The University of Tennessee Research Foundation (Knoxville) Superelastomers™ - New Thermoplastic Elastomers Based On Mulitgraft Copolymers -- Jimmy Mays, Ph.D., said, “We have developed a new class of elastomers that have superior mechanical properties and potential for specialty applications like surgical gloves and use in advanced audio devices (ear buds). The TTDC award will allow us to scale up the synthesis of these materials to the kilogram scale so that we can evaluate these new rubbers in several specialty applications. [The grant supports filing] additional patent applications and [securing] commercialization partners and investors.” **Focus:** To develop efficient manufacturing processes of a next generation soft plastic called Superelasotmers™.

Venture Incite and Y12 National Security Complex (Oak Ridge) -- Code 4 Armor – Scott Ewing said, in part, “The result we are creating by this process is a cermet--a composite of both ceramic and metal that is not glued together, can't delaminate, and has ideal properties of both components. In our project, we're manufacturing an armor material with the ballistic protection of steel plate plus the lightweight advantage of ceramics… With this TTDC Technology Maturation grant, we want to prove we can manufacture at scale an advanced armor plates that will defeat enemy small arms fire at a significant savings in material weight.” Focus: To develop next-generation body armor for military personnel that provides greater protection with less weight than the current armor.

(###)