

# it's all about the e's

ANOTHER IN A SERIES OF PROFILES OF LEXINGTON'S OUTSTANDING ENTREPRENEURS

## **KNIGHT-ED: Local Company Describes Itself as "The conduit between concepts and products".**

In simple terms, KNIGHT-ED, LLC is an entrepreneurial company whose principals, Mark Knight and Larry Prinssen, support researchers and inventors by helping them turn their design plans into actual products. Sounds somewhat basic -- but in reality, KNIGHT-ED is anything but!



Mark Knight, the company's Chief Technology Officer and founder, brings a wealth of telecom and tech-integration experience to the firm. He began his career in electronics, serving in the Army's Intelligence division, where he helped develop innovative communications and field installation techniques for digital control stations. Prior to starting KNIGHT-ED, he was president of PCB Assembly, a specialty electronics components company that developed sub assemblies for companies in the networking, consumer products, and security areas.

Larry Prinssen, the company's Chief Operating Officer, tracks his professional career history back through both IBM and Lexmark, where he held positions in marketing and business development. Before joining Mark Knight at K-ED, Prinssen was with PowerCart, a leading, privately held supplier of mobile powered workstations for the retail and healthcare industry.

Prinssen described the essence of KNIGHT-ED as being 'the conduit between concepts and products.' He explained that the company provides a full range of electronics design services, including prototyping, re-engineering, and design for manufacture. In addition, the company is an experienced assembler and contract manufacturer of circuit boards, sub-assemblies, wire harnesses, and integrated electronic products. Prinssen noted "With the help of the Department of Commercialization and Innovation within the Kentucky Cabinet for Economic Development, K-ED has

installed a 'pick-and-place' machine for the assembly of circuit cards that can handle electronic components the size of a grain of sand." The capability to assemble such miniscule components is a critical requirement in the construction of small medical devices and sensors.

In addition, K-ED operates the only commercial cryogenic chamber in the state of Kentucky. The firm sells 'cryo-time' to various companies who wish to treat their materials in K-ED's chamber. This large piece of 'Star-Wars-like' equipment can cool steel to minus 310 degrees F. over an 18 to 24 hour period, a process that hardens the steel with no chance of warping. Commercial usage? Pistons, brakes, and rotors in cars (Prinssen notes, "Think NASCAR!"), as well as musical instruments and electronic components.

The company works closely with the University of Kentucky, in particular with Dr. Bruce Walcott at UK's Center for Manufacturing and Dr. Greg Gerhardt at the UK College of Medicine. Prinssen said, "Dr. Walcott and the Center for Manufacturing are true resources for manufacturers as well as people with ideas for products. The folks at the Center for Manufacturing have resources and contacts throughout the state. They really can help you get started."

As examples of the wide spectrum of capabilities KNIGHT-ED offers, check out these examples of concurrent, diverse projects underway:

- The Company is working with the Sisters of Invention, a local entrepreneurial group, on bringing to market a remarkable invention: the HALO Baby Seat Safety System. In simple terms, this system places a seat pad under a child's car seat cushion; a small electronic weight sensor device ("the brains of the system") is firmly attached to the side of the car seat. When the baby is placed in the car seat, the system is automatically activated via the weight sensor. Each caregiver who transports the baby receives his own key pod that works within the system. If a driver exits the vehicle without removing the baby, an alarm sounds on the key pod as a reminder that the child is still inside; if that fails, a louder alarm using a voice synthesizer will sound, saying, 'Baby in danger.'

- The Company is working with UK's Dr. Gerhardt on research in developing neurochemical recording systems and microelectrode assemblies for furthering the understanding of Parkinson's disease, traumatic brain injury, and epilepsy. KNIGHT-ED has helped to create the FAST 16 Mk II, a device that records and captures

electrochemical data at rates up to 1.2GHz with 16-bit resolution. It is anticipated that this research will be the centerpiece of a newly formed company, BrainChem, a joint venture between Quanteon, Ron Bingham Enterprises, and KNIGHT-ED. BrainChem will aid clinicians who are studying diseases of the brain such as Parkinson's and Alzheimer's, seizure disorders like epilepsy, and brain injury, in order to treat patients more effectively.

- The Company is working with Xtreme Tracker in Marion, Kentucky, on an electronic device that keeps track of the usage of rental construction equipment. A project that has roots at the UK Center for Manufacturing, the Tracker 'knows' when the equipment's engine is on and can track hourly usage, track its whereabouts with a GPS, and remotely turn the engine off. The XT1 uses cell phone technology to communicate with a central location. End result? Accurate billing, better equipment maintenance, and low communication costs.



Looking ahead, the principals envision an increased demand for their specialized capabilities. With nearly two dozen active clients already using KNIGHT-ED's services, this unique entrepreneurial company's future is uniquely promising!



*Gina Greathouse of Commerce Lexington and Dean Harvey of UK's Innovation and Commercialization Center collaborate as members of the Bluegrass Business Development Partnership to promote and support new and existing businesses in Central Kentucky. Contact them at (859)225-5005.*