

KAT's Aerospace Partnership Accelerated by State Funding

Kinetic Art and Technology (KAT, www.KATech.com), is further commercializing its motor and generator technology with the help of a \$1.9 million grant from the Indiana 21st Century Research and Technology fund. Established under Governor Mitch Daniels in 2005 to replace the former Department of Commerce, the Indiana Economic Development Corporation (IEDC, www.iedc.in.gov) manages the 21st Century Fund.

KAT received this grant to develop and commercialize its advanced Segmented Electro-Magnetic Array (SEMA) motor technology. Partially funded by the 21 Fund, a new project is helping KAT to commercialize SEMA-based motors and generators, working with Honeywell Aerospace, with facilities in South Bend.

Kinetic Art & Technology (KAT), a corporation formed in 1990, develops concepts, techniques and designs for highly efficient and compact electromechanical systems. KAT's developments have been funded by Small Business Innovation Research (SBIR) grants, along with private investment and commercial development contracts. The company has designed SEMA-based motors and generators for the U.S. Department of Energy, Department of Defense, NASA, and manufacturers within aerospace, automotive, and industrial markets. SEMA motors and generators, ranging from 3-inch to 33-inch diameter have been constructed and tested, further underscoring the value of SEMA technology in the commercial and military sectors. The power levels of these devices currently range from fractional horsepower to over 200 horsepower. SEMA-based Electric motors and generators have demonstrated precision, peak power and efficiency, along with modular design and unique packaging options.

In 1996, KAT spun off a second company, Lynx Motion Technology Corporation (www.LynxMotionTechnology.com, also based in Greenville, Indiana) to commercialize products based on the patented SEMA technology. KAT is responsible for developing technology that Lynx then licenses for manufacture. SEMA motors have been in commercial production since 1999. KAT's purpose for its continuing SEMA-related R&D is to provide Lynx (and its licensees) with the technical ability to produce motion-based products of superior performance at low cost.

Roy Kessinger, KAT founder and President, is delighted with the 21 Fund, and his companies' aerospace partner. "We have been working with Honeywell for a couple of years now," says Kessinger, "but, the 21 Fund is allowing the KAT and Honeywell teams to work faster. At an engineering level, we work like one team. KAT is very good at designing motors based on our unique technology, but Honeywell has what we don't have; production-focused engineering, aerospace-qualified manufacturing, and marketing... and most important... they have the customers. It's a great combination. Our small business does the thing that we do better than anybody, while our big-business partner does what we could not do by ourselves. It's a win for us, Honeywell, and for Indiana"

The SEMA motor products resulting from the 21st Century funded partnership will be manufactured in Indiana, for incorporation into future Honeywell products. Dave Charles is the Honeywell Advanced Technology Program Manager responsible for the de-

velopment of the SEMA technology. In discussing the value of the 21st Century Grant he stated, "The IEDC funding has provided the seed money to develop several Proof-of-Concept (PoC) SEMA machines and test them in existing Honeywell systems and expand into new product areas. This is accelerating the pace of SEMA-based product development here and at KAT/Lynx." The Honeywell-KAT partnership has already resulted in joint patent disclosures and more are anticipated in the near future.

The partnership with KAT has also been a strategic part of the Honeywell commercialization plan. This has allowed the SEMA Advanced Technology projects at Honeywell to move at an accelerated pace. The SEMA development at Honeywell began as a corporate Growth Board project. The Growth Board was established by Honeywell CEO Dave Cote to generate technology advancements that will fuel future company products and markets. The SEMA development project was seen as just such an opportunity. At one of the SEMA growth board project reviews, Honeywell Chief Technology Officer, Larry Kittelberger stated that the SEMA project was moving much faster than others being funded by the Growth Board. "Your project is producing hardware and test results, while some of the other projects are only providing paper studies". Dave Charles credits this accelerated project execution to the unique partnership between Honeywell and KAT. "This teaming arrangement has allowed us to use the strengths of each partner. Honeywell's marketing and project management skills combined with the agility of KAT's product development team have been very effective."

Another key aspect of the teaming arrangement is the development of an Indiana manufacturing base for the SEMA technology. Again, the Advanced Manufacturing expertise at Honeywell, combined with the SEMA product knowledge of the KAT team forms the basis for this effort. The results will be a long term manufacturing base in Indiana for SEMA-based Honeywell systems in very profitable Aerospace markets. This means stability for the current KAT and Honeywell Indiana employees and significant growth in Indiana jobs to support this emerging technology.