

Sleek, Lightweight Engine Design Propels SA

Written by Rudi Prinsloo
Thursday, 05 March 2009 10:19 -



Innovator To A Landslide Victory In Global Competition

Johannesburg, S. Africa - March 5, 2009 - Durban light aircraft engine manufacturer, ADEPT Airmotive, has made clean sweep in a global competition, taking the title of 2008 Inventor of the Year for its development of a revolutionary aviation engine with the aid of digital prototyping technology.

The innovator relied on the technology to develop the 320T, a 320 horsepower general aviation engine with a compact design that offers low vibration and high structural integrity. The 159kg engine is more than 59kg lighter than a traditional piston engine of comparable horsepower, allowing the 320T to achieve significant fuel savings.

Each month, design software innovator, Autodesk, nominates an Inventor of the Month from more than 800 000 users of Autodesk Inventor software, which is the foundation for digital prototyping. Winners are selected for their engineering excellence and groundbreaking innovation.

ADEPT, which was Inventor of the Month for March 2008, received nearly two-thirds of the votes cast in the Inventor of the Year challenge. Members of the manufacturing community around the world voted for the 2008 Inventor of the Year winner on the Autodesk manufacturing community web site.

"The fact that our peers voted us into the winning position makes the award even more gratifying," says Richard Schulz, managing director of ADEPT. "We're thrilled to demonstrate that South African engineering is world-class as part of the global exposure that accompanies this prestigious award."

The digital prototyping capabilities of Inventor software helped ADEPT produce accurate 3D models of the 320T before anything was actually built, reducing the number of physical prototypes that had to be constructed. Processes that once took hours - such as changing the wall thickness of an engine component - were completed almost instantaneously with Inventor software. As a result, engineers were able to spend less time constructing geometric models and more time creating innovative designs, and then simulating the performance of the designs under real-world conditions.

"I'm thrilled that a South African entrant won the competition," says Errol Ashwell, managing director of Autodesk Africa. "ADEPT distinguished itself in a very competitive field of nominees in 2008, earning the praise of the manufacturing community for its ground-breaking engine."

Stressing the value of intellectual property (IP), he says companies, like ADEPT, that invest in the creation of IP will reap dividends in the long-term. "Unfortunately, South African companies still spend billions a year on licence agreements and royalties," says Ashwell.

In the face of shrinking markets, he encouraged local companies to differentiate themselves by

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offering delivery times their competitors can't match, without compromising the quality of their goods.

"Engineers around the world rely on digital prototyping to develop and validate their designs in a digital format, minimising the need for physical prototypes and helping to get their products to market faster."

Runner-up positions in the Inventor of the Year poll went to the US company, Sound Devices LLC, a leading manufacturer of professional audio recording and mixing equipment, which received 13% of the votes. British Antarctica Survey (BAS), which received 6% of the votes, is responsible for the United Kingdom's national scientific activities in Antarctica, and uses digital prototyping to design tools that allow the organisation to more effectively carry out research and provide insight into key 21st century challenges such as climate change, ozone depletion and rising sea levels.

About Autodesk

Autodesk, Inc., is the world leader in 2D and 3D design software for the manufacturing, building and construction, and media and entertainment markets. Since its introduction of AutoCAD software in 1982, Autodesk has developed the broadest portfolio of state-of-the-art Digital Prototyping solutions to help customers experience their ideas before they are real. Fortune 1000 companies rely on Autodesk for the tools to visualise, simulate and analyse real-world performance early in the design process to save time and money, enhance quality and foster innovation. For additional information about Autodesk, visit www.autodesk.co.za.



ADEPT Airmotive Company Profile

ADEPT Airmotive's core activities are the design, development and manufacture of a range of General Aviation engines for the light aircraft market. The company is based at Virginia Airport, Durban, where it has its design and administration offices and an Engine Assembly and Testing facility. Casting production occurs at the incubation foundry, set up in conjunction with the University of Johannesburg in Gauteng.

Company Background

In 2003 ADEPT Airmotive was formed when a South African private equity company, Tanglewood Private Equity (Pty) Ltd. joined forces with the company founders: Richard Schulz, Geoff Cronje and Raymond Bakker.

In February 2007, the Innovation Fund, a government funding program administered by the South African Department of Science and Technology purchased a 25.1% share of the company.

Company Directors

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Andre Schoeman (Chairman)

Richard Schulz (Managing Director)

Raymond Bakker (Technical Director)

Richard Schoeman (Financial Director)

Duncan Raftesath (Innovation Fund)