Boeing Donates Advanced Processing Patent to Vanderbilt University

Technology could lead to nanotechnology, biomedical breakthroughs

Boeing [NYSE: BA] has donated a patent to Vanderbilt University that could play an important role in the approaching nanotechnology revolution. The patent covers a particle-separation technology originally developed for use in outer space but readapted for efficient ground-based operation.

The technology, an advanced version of Continuous Flow Electrophoresis, has the potential to produce new, more effective pharmaceuticals. It also could contribute significantly to the development of nanotechnology -- the creation of materials, devices and systems through the control of matter at the molecular level. Nanotechnology ultimately promises a new generation of electronics, telecommunications, medicine and materials science.

" The technology has potential applications in all kinds of nanotechnology," said David Cliffel of Vanderbilt University, whose team will continue the research begun by Boeing. "Specifically, this is the enabling technology for the advanced purification and production of proteins and other particles. That means that we could produce commercial pharmaceutical products in large quantities at a very reasonable cost."

Boeing's particle-separation technology was originally developed to operate in the micro-gravity environment of space to separate cells, proteins and enzymes for pharmaceutical applications. At the time of its development, a specific target of the technology was the isolation of erythropoietin, a protein that causes red blood cell production for treating anemia in kidney dialysis patients. The donated patent covers a subsequent breakthrough that allows higher volume particle separation to be performed on Earth as well.

" That development makes practical the production of large quantities of purified protein and other molecules," said David Richman, a Boeing scientist and inventor who led the research.

The patent donation is part of Boeing's effort to maximize the value of its intellectual property to society and shareholders. The value of the patent has not been disclosed.

"By sharing our high-potential patents with institutions and universities that are interested in continuing the research for non-aerospace applications, Boeing allows its technologies to be developed and pursued to the benefit of society," said Gene Partlow, vice president of Boeing's Intellectual Property Business. "Vanderbilt University is a leader in this field. This is just another example of how we can recognize the value of Boeing ideas by allowing experts in the field to bring them to reality in areas outside of our core business. We are very proud to be associated with this breakthrough in research that could ultimately benefit all of us."

In addition to donations of intellectual property, Boeing makes more than $8 million in charitable investments each year to help develop intellectual talent and promote academic achievement at colleges and universities with demonstrated records of academic excellence, programs fostering critical skills, and opportunities for diverse populations. Boeing further supports universities and colleges through intern and co-op programs for students, equipment donations, research and development funding and executive participation on program and curriculum advisory councils.

The Boeing Company is the world's leading aerospace company, and the largest manufacturer of satellites, commercial jetliners, and military aircraft. The company is also a global market leader in missile defense, human space flight, and launch services. In terms of sales, Boeing is the largest U.S. exporter. Total company revenues for 2002 were $54 billion. Vanderbilt University is a private research university of approximately 5,900 undergraduates and 4,300 graduate and professional students. Founded in 1873, the University comprises 10 schools, a public policy institute, a distinguished medical center and The Freedom Forum First Amendment Center. Vanderbilt, ranked as one of the nation's top universities, offers undergraduate programs in the liberal arts and sciences, engineering, music, education and human development, and a full range of graduate and professional degrees.
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