

**FOR IMMEDIATE RELEASE****TIAX to Identify and Develop Intelligent Inflatable  
Space Structure Materials for NASA**

*Company collaborating with ILC Dover and Johnson Space Center to create intelligent, flexible materials for inflatable space stations, space suits and lunar habitats*

**September 7, 2005 (Cambridge, MA)** – TIAX, a leading collaborative product and technology development firm, today announced that it is collaborating with ILC Dover and Johnson Space Center to identify, develop, and test new materials for building inflatable structures in space. The Phase I contract was awarded to the three partners by the National Aeronautics and Space Administration (NASA). ILC Dover is the prime contractor.

“There are many unique challenges to consider when developing materials for space structures,” said Peter Kopf, Principal at TIAX. “These structures can be bombarded by debris in space that travels 15 times faster than a bullet. They also are exposed to the most extreme temperatures and radiation from the sun. Our goal is to identify promising technologies and develop them into a new generation of materials that can withstand these challenges and ultimately advance scientific discovery throughout our solar system.”

As astronauts conduct long-term studies in space and missions expand beyond the moon to remote planets, NASA needs novel structures to transport equipment and people over long distances and provide safe habitats both in orbit and on surfaces. NASA has long recognized the advantages of lightweight structures that can be folded and packed for transport and inflated for use once they arrive at their final destinations. As a result, these structures are ideally suited for space applications where launch weight and stowage volume requirements are significant constraints.

Since they will house equipment – and even humans – for extended periods of time in the far reaches of space, these new space structures developed under this collaboration will also feature intelligent designs that enable them to be self-sustaining. They will have the ability to harvest solar energy to power the equipment that they contain, as well as be able to communicate when and where they have been damaged and incorporate mechanisms for self-healing. They also will use nanotechnology for assisting in radiation protection and reducing permeation of the flexible materials for enhanced crew safety.

TIAX will use its expertise in advanced materials, power generation, power storage, and energy management to identify new technologies that could be used in the development



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of materials for these structures. TIAX and ILC Dover, an expert in engineered inflatables, will use these technologies to design and fabricate experimental materials. Johnson Space Center will then evaluate and test the materials under simulated conditions to determine if they can withstand the extreme conditions of space. If the materials yield promising results, an inflatable demonstration unit will be developed under Phase II of the contract.

“This project is a perfect example of TIAX’s ability to advance the development of emerging technologies to meet a variety of needs,” said TIAX CEO Kenan Sahin. “Many of the new technologies that will go into these space structures could also be applied to products here on Earth. For example, the sensors that enable these structures to detect and repair damage hold significant promise in healthcare monitoring.”

This project will support NASA’s Space Exploration Mission to advance the nation’s scientific, security, and economic interests. Included in this program are Earth-to-orbit and in-space transportation systems, systems required for human health and performance, and robotic systems that assist humans as they travel and explore.

### **About TIAX LLC**

TIAX LLC (pronounced Ty-ax) is a leading collaborative product and technology development firm that accelerates innovation to help its clients create an impact in the market—and in people’s lives. It integrates business, industry, and hands-on technology expertise to transform ideas into products and problems into solutions. Formed out of Arthur D. Little's Technology & Innovation business, TIAX ([www.TIAXLLC.com](http://www.TIAXLLC.com)) builds on more than a century of breakthrough innovation and client success using collaborative R&D. TIAX was selected as a Technology Pioneer 2003 by the World Economic Forum and is ISO 9001 certified with more than 50 research and development laboratories.

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