Software With Strong Ties to Space

With more than 50 years of combined NASA experience under the belts of Tietronix Software, Inc.'s management team, commercial partners from small businesses to Fortune 500 firms are benefiting from the company's landmark achievements in delivering complex, mission-critical systems for NASA's Space Shuttle and International Space Station (ISS) programs.

Recognized by the Houston Business Journal as one of the "Top 25 Software Companies" in the high-tech hotbed of Houston, Texas, Tietronix is a full-service provider of custom software applications and advanced technology solutions. It partners with organizations to help them solve multifaceted business problems via new technology, resulting in increased revenues, productivity, and profitability, and faster time-to-market. Tietronix was founded in 1999 by Victor Tang, Michel Izygon, and Stuart Engelhardt, each having worked on the development of advanced software-based technology solutions, relating to NASA. All three founders worked together at Johnson Space Center, where they developed specialized software to help manipulate the robotic arm of the Space Shuttle.

Tang, the president of Tietronix, is credited with identifying and creating several software tools to support and facilitate astronaut missions, including a flight scheduling automation system, an astronaut activity scheduler, and a robotics display onboard the Shuttle. Izygon, the company's senior vice president and chief technology officer, spent 3 years as a program manager in a technology development contract with Johnson. His duties included management and development of a Web-based electronic workflow system aimed at facilitating and automating the Space Center's mission-critical processes. Engelhardt, Tietronix's vice president, developed software for 5 years at Johnson, authoring various onboard and ground-based mission support applications for Shuttle crews.

Joining the three founders on the management team is Frank Hughes, Tietronix's vice president of training products. Hughes was NASA's Chief of Space Flight Training, where he headed an organization responsible for all Shuttle and Space Station training. He invested more than 33 years at NASA, assisting in the assembly of all U.S. space missions since 1966. Another key management member is French astronaut Jean-Loup Chrétien, recognized as the first Western European to travel in space, as well as the first non-American and non-Soviet to walk in space. Chrétien leads Tietronix's research and development efforts for a new division covering civilian and military applications in the field of optical engineering. As the inventor of an optics-based technology that dramatically improves visibility in extreme sunlight conditions (influenced by his total loss of sight due to sun exposure while in space and while piloting and landing airplanes), Chrétien is spearheading the conception of several prototype products that may one day be used in airplanes, automobiles, and cameras.

Four years after establishment, Tietronix has grown to over 50 experienced engineers and project managers who are dedicated to executing business strategies and applying technologies developed for NASA to commercial markets. The company's TieFlow eProcess software is a paradigm of its successful efforts to transfer technology associated with NASA. Essentially a second-generation workflow system that extends from the founders' work

As a workflow management tool, TieFlow eProcess can automate and simplify any generic or industry-specific work process, helping organizations transform work inefficiencies and internal operations involving people, paper, and procedures into a streamlined, well-organized, electronic-based process.

Computer Technology

at Johnson, TieFlow is a simple but powerful business process improvement solution. It can automate and simplify any generic or industry-specific work process, helping organizations to transform work inefficiencies and internal operations involving people, paper, and procedures into a streamlined, well-organized, electronic-based process.

TieFlow increases business productivity by improving process cycle times. The software can expedite generic processes in the areas of product design and development, purchase orders, expense reports, benefits enrollment, budgeting, hiring, and sales. It can also shore up vertical market processes such as claims processing, loan application and processing, health care administration, contract management, and advertising agency traffic. The processes can be easily and rapidly captured in a graphical manner and enforced together with rules pertaining to assignments that need to be performed. Aside from boosting productivity, TieFlow also reduces organizational costs and errors.

TieFlow was developed with **Small Business Innovation Research (SBIR)** assistance from Johnson. The SBIR support entitles all Federal Government agencies to utilize the TieFlow software technology free of charge. Tietronix emphasizes that TieFlow is an outstanding workflow resource that could produce dramatic productivity and cost improvements for all agencies, just as it has done and continues to do for NASA. The Space Agency is currently using the software throughout several mission-critical offices, including the Mission Operations Directorate and the Flight Director's Office, for worldwide participation of authorized users in NASA processes. At the Flight Director's Office, TieFlow allows personnel to electronically submit and review changes to the flight rules carried out during missions.

Outside of government, Tietronix secured a commercial contract to implement the TieFlow technology into a vertical solution for the health care industry. The Home Care Connect™ Web-based Point of Care Solution workflow tool was developed in cooperation with Inter-Active Healthcare, Inc., a leading home care agency in the southwest. With its simple Web interface, field professionals can collect and validate Outcome and Assessment Information Set (OASIS) and clinical data from the start of care through the time the patient is discharged, all without having to install any software. The tool is also capable of working with any back-office claims processing and billing system, as well as capturing and transferring data from telemedicine equipment.

Tietronix also offers a Virtual Tour software product that provides users with a "total immersion experience." Unlike traditional interactive multimedia products, the
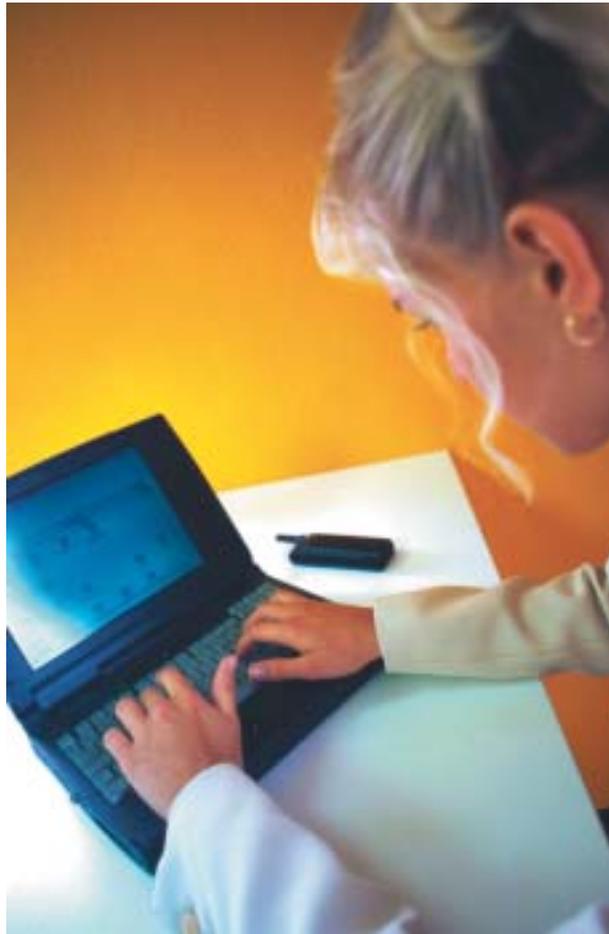
Using a laptop and the Internet, Home Care Connect™ enables field professionals to validate Outcome and Assessment Information Set and clinical data from the start of care through the time the patient is discharged, all without having to install any software.

Virtual Tour technology creates a complete suspension of disbelief that lets users travel freely through a virtual space. For architects and engineers, the software can create extremely detailed virtual structures that they can "walk" through to head off any potential problems prior to starting a construction project. It is also ideal for emergency and operational facility training purposes, travel and tourism destinations, commercial and residential real estate sales, and science teaching. The software has been utilized to create a virtual interactive tour of Johnson Space Center, a "fly-through" tour of the ISS, and a walk-through tour of the multi-story Hilton Clear Lake Hotel in Houston, complete with automatic doors and operational elevators.

Home Care Connect™ is a trademark of Tietronix Software, Inc.