

# PROVIDENCE TECHNOLOGIES, INC.

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## **NEWS FOR IMMEDIATE RELEASE:**

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## **MORGAN JOINS PROVIDENCE AS EXEC VP**



**Thomas R. Morgan, PhD**, Executive Vice President & Chief Technology Officer  
Providence Technologies, Inc

Roswell, NM -- Dr. Thomas R. Morgan has joined Providence Technologies, Inc., Roswell, NM, as Executive Vice President and Chief Technology Officer. Morgan is a PhD geophysicist with an extensive oil and gas industry background. Providence is New Mexico's only full service 3D geophysical company.

"Dr. Morgan's respect in industry, his well earned reputation as a world-class expert in advanced seismic imaging, moves Providence to the forefront in industry in our ability to deliver advanced earth imaging to our customers and partners," according to Providence President Jim Manatt. Dr. Morgan will head Providence's 3D seismic data projects, designs, data processing, interpretation and R&D. Providence provides operations management, consulting, mapping and prospect generation in exploration and development for oil, gas, water and other earth resources including renewable energy. The company has been a leader in advanced earth imaging since incorporation in 1994.

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Providence has conducted exploration projects for major and independent oil companies in the US, Canada, Republic of Yemen and is preparing new contracts in the Republic of India. Providence also conducts independent R&D and as an industry partner with Sandia National Labs. Providence recently spun-off a new technology venture, Focus Energy Corporation, Roswell, NM. Dr. Morgan will provide technology and R&D management for the new venture.

During his career Dr. Morgan has had assignments in nearly every major segment of the energy industry including prospect generation, seismic data acquisition and processing, applied research and software development, as well as education and training. A proven oil finder, he has interpretation experience in onshore Texas, the Gulf of Mexico, Southern California, and a number of international areas. He is also an expert in numerical image reconstruction and the use of large scale cluster computing.

Dr. Morgan has supervised teams of scientists and software developers and managed projects requiring the cooperation and coordination of individuals in multiple geographic locations and the deployment of resources over large distances and to remote parts of the world.

As a working scientist, he has applied a wide range of numerical methods to imaging problems in seismic exploration, medical ultrasonics, non-destructive inspection and radio interferometry. In addition, he is a highly experienced software developer and designer and has conducted numerous projects involving parallel programming on UNIX workstations and massively parallel computer clusters.

He began his exploration career as a roughneck in an oil field in outhwestern Oklahoma in the summer of 1971 while still an undergraduate. After completion of BS and MS degrees in Geology and Geophysics at Rensselaer Polytechnic Institute, he went to work for Fairfield Industries as a Project Geophysicist doing marine seismic data acquisition and interpretation. This was followed by employment with Mobil Oil, Houston E&P Division, doing prospect generation along the Texas Coastal Plain and in the Gulf of Mexico. During this time, his efforts lead directly to the discovery of a gas field off Matagorda Island, Texas.

In 1978 he was accepted in the first group of graduate research assistants by the University of Houston's Seismic Acoustics Laboratory and began PhD studies. He conducted acoustic and seismic imaging research and physical modeling studies, and pioneered the use of the Omega-X domain for seismic imaging. He also consulted on exploration projects and was responsible for the extension of an oil discovery in the Central Mediterranean. His thesis work included some of the earliest work done on 3D velocity analysis and migration. In the spring of 1981 he was awarded one of three initial PhD degrees in Geophysics from the University of Houston.

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Dr. Morgan's research interests continued with O'Connor Research in Denver. He produced prestack Kirchhoff Integral time migration software and managed a project to construct a windows-type user interface for a DEC VAX 11-780 / VT100 based seismic processing system years before UNIX and Microsoft windows systems were available.

He authored a graduate level text on wave theory and seismic migration, "Foundations of Wave Theory for Seismic Exploration." This was followed by several years as an Assistant Professor of Geophysics at The Colorado School of Mines where he taught graduate and undergraduate courses in seismic exploration and wave theory as well as seismic field acquisition at Summer Field Camp.

During a leave of absence, he was Principal Investigator on a National Institutes of Health funded medical ultrasonic imaging project. By employing technology based on the Stolt migration algorithm, he developed a prototype system that provided a factor of five improvement in lateral resolution when compared to then existing commercial products.

In 1988 he began employment with IBM Corporation in Kingston, NY where he designed, developed and assisted customers in their development of seismic migration, and other processing applications for vector mainframes. In 1991 he continued these activities as a Senior Scientist in IBM's newly formed RISC/SP division, producer of the world's first parallel cluster computer. He did some of the first distributed memory parallel programming of Omega-X and Kirchhoff Integral migration, and finite element modeling. He also conducted performance testing and enhancement on numerous customer applications.

Leaving IBM in early 1996, he contracted with several of the seismic processing industry's major service providers in the development and performance optimization of parallel 3D prestack Kirchhoff Integral Time and Depth Migration routines and 3D prestack Omega-X Migration. This was followed by a three and one half year project with the National Radio Astronomy Observatory where he was responsible for the design and implementation of a UNIX cluster based, real time data capture, image data construction and signal processing system for the world's largest and most powerful radio interferometer.

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