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**\*\*\*FOR IMMEDIATE RELEASE\*\*\***

**SABEUS TARGETS OIL & GAS PRODUCERS WITH NEW SENSOR SYSTEMS DIVISION**

**Sabeus Sensor Systems to Bring High Concept Optical Technology to the Well**

**SALT LAKE CITY, UT - OCTOBER 7, 2002** -Sabeus Photonics, Inc, the leader in high concept optical technology, today announced the formation of a new division, Sabeus Sensor Systems, to develop, manufacture and sell a new class of versatile, robust, and precision fiber-optic-based sensing systems for use in oil & gas exploration and production, military, and homeland defense applications. The new division's initial focus is on oil and gas production, and simultaneously with this announcement, the company launched two breakthrough, turn-key fiber-optic-based sensing systems for permanent borehole installation (see separate release entitled: *New, Real-time Fiber-Optic Downhole Instrumentation Systems Designed for Permanent Installation.*)

The announcement was made at the International Exposition and 72<sup>nd</sup> Annual Meeting of the Society of Exploration Geophysicists (SEG) that began here yesterday.

"This event marks a watershed for Sabeus as well as for the oil and gas exploration and production industry," commented Jim Andersen, vice president and general manager of the new sensor division. "For several years, Sabeus has quietly been engaging with notable industrial and military groups to characterize and fine tune its unique fiber-based sensing technology, and it became apparent to everyone that it was time to take the wraps off." Andersen joined Sabeus from Northrop Grumman Corporation, where he was the director of the world's leading military fiber optic acoustic systems group. "I saw the technology and became an instant believer," he said.

Optical communication fibers can be transformed into extremely sensitive and precise sensors that can measure over 60 different parameters. The most common method to accomplish this is by "writing" microscopic patterns into the core of the fiber at precise, predetermined intervals. These patterns, called Fiber Bragg Gratings (FBGs,) cause light transmitted down the fiber to be reflected back to the source. If the fiber in the area of a grating is distorted by some external force, the reflected light experiences a change in characteristics, such as color (wavelength) or phase, which may be detected at the source. A variety of techniques exist for distorting the fiber in reaction to a stimulus, such as pressure, temperature, or sound, and after calibration, the fiber's response accurately reflects the stimulus.

What is difficult, however, is writing the microscopically-precise Fiber Bragg Gratings, at exact locations along a continuous, long fiber, without splices, or without severely weakening the fiber by stripping and recoating it. Sabeus has a unique and patented technology for accomplishing this that involves writing the Fiber Bragg Gratings directly through the protective jacket and cladding of the

fiber. Some time ago, the company recognized that it possessed the key enabling technology for manufacturing ultra-reliable fiber-optic sensors capable of withstanding, for example, the extremes of pressure and temperature found in oil wells.

### **Production Sensing Systems in the Oil & Gas Industry**

The use of sensing technology as a production tool, particularly deep inside producing oil and gas wells, is rapidly expanding as the petrochemical industry experiences a shift in focus from new exploration to enhancing recovery from existing reservoirs. With adequate technology, according to analysts, the potential is there to generate billions of dollars of previously unattainable revenue, not to mention improving the available supply.

Existing conventional sensing technologies predominantly require electronics packages that have to be strung deep into wells. They have proven to be difficult, unreliable, and expensive to operate, particularly due to the extremes of temperature and pressure inside a borehole that are well beyond the limits of today's electronics.

But to fully exploit today's reservoirs, producers need a sensing technology that is simple to deploy, capable of being permanently installed in the well, and sophisticated enough to measure parametric changes as they occur.

According to André de Fusco, CEO of parent Sabeus Corporation, the company recognized that today's seismic sensing technologies, not only the predominantly-used electronic and electromechanical approaches, but even early attempts at fiber-optic-based sensors, were not equal to the task. With its proprietary technology, however, Sabeus realized that it had the industry's solution at hand. To its team of photonics experts, Sabeus added seasoned veterans from the oil and gas equipment industry, and they jointly defined, and then brought to market, the division's first two benchmark systems, announced today.

### **About Sabeus Sensor Systems**

Sabeus Sensor Systems, a division of Sabeus Photonics, Inc, is the inventor of a breakthrough family of seismic sensor systems for oil and gas exploration and production (E&P) based upon the company's unique and proprietary high concept optical fiber technology.

Sabeus has overcome the historical problems with instrumenting the borehole of oil and gas wells by developing a family of reliable, accurate, real-time fiber-optic sensor systems that are capable of withstanding, over long service lives, both repeated rough handling and extremes of pressure and temperature.

To date, Sabeus Sensor Systems has announced a distributed temperature sensing system, with up to 400 channels, and a 4000 Hz pressure-temperature-vibration sensor system. Both systems are complete, turn-key products that include a robust, stainless-steel-jacketed fiber sensor/telemetry cable, and topside interrogation electronics.

**About Sabeus Photonics, Inc.**

Sabeus Photonics is the leader in the design and manufacture of high-concept optical systems and devices for leading-edge communications, oil & gas, defense/homeland security, and structural sensor applications. The company was founded in 1998 by a small team of internationally-recognized U.S. and European scientists, engineers and manufacturing technologists who co-developed the company's breakthrough communications products as well as its sophisticated manufacturing software. The company's components have been adopted by over 30 leading companies.

In October 2002, Sabeus announced the formation of Sabeus Sensor Systems, a new division created to bring the company's unique fiber optic expertise to remote sensing applications, particularly for oil and gas exploration and completion.

Sabeus Photonics, Inc. has its main office and 50,000 square foot ISO 9001-certified manufacturing facility in Chatsworth, CA. Investors include Agere Systems, Inc., TL Ventures, Redpoint Ventures, Digital Coast Ventures, Credit Suisse First Boston, and Lexington Ventures. Total equity investment to date is \$26 million.

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Additional background information is available at [www.roeder-johnson.com](http://www.roeder-johnson.com).