



Kennedy Space Center

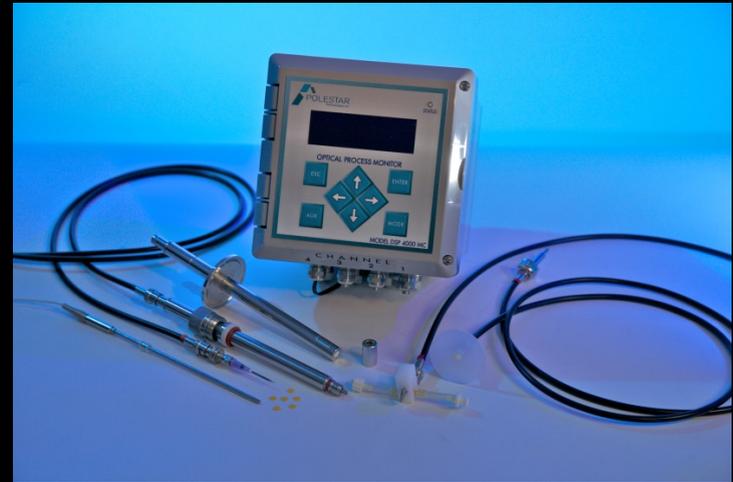
Polestar Technologies Inc. Needham Heights, Massachusetts

NASA Technology

- ◆ Scientists in the 1990s were testing cow digestive bacteria's ability to break down plant matter in space and were cultivating it in bioreactors
- ◆ O₂ sensors that monitored the units were prone to false reads because the viscous biological material tended to block the sensor's intake

Technology Transfer

- ◆ Polestar Technologies received Small Business Innovation Research (SBIR) funding to develop O₂ sensors that use fluorescent quenching, which is not prone to false reads, to measure oxygen levels
- ◆ The company commercialized the NASA-funded technology, bringing to market its line of O₂ sensors used by medical research universities and the private sector alike for a variety of purposes



Benefits

- ◆ A typical sensor can record about 4 million readings before needing to be replaced
- ◆ The screw-on screw-off method of replacing sensor tips makes for easy maintenance
- ◆ The same computer instrument used for the O₂ sensor can also be used for the company's pH and carbon dioxide sensors