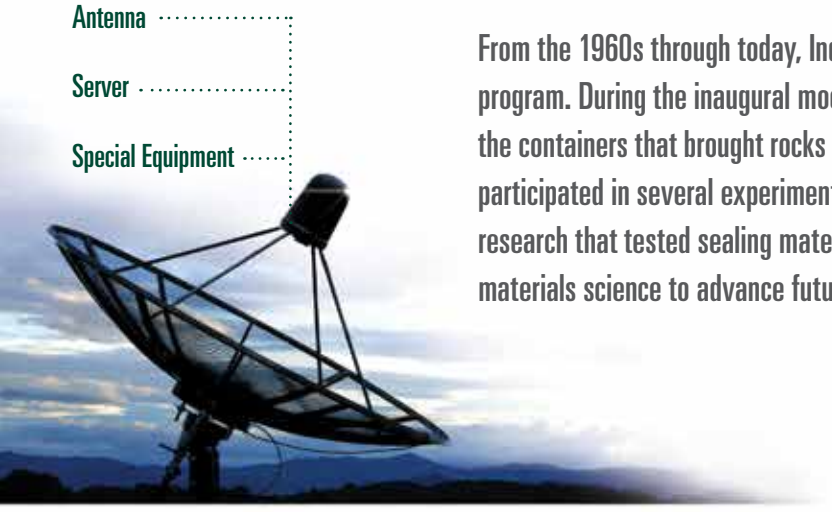
Indium Corporation's solder materials exceed the high-reliability and life-expectancy demands of satellite and ground station systems

When Connections Count®

More than 50 years of Mission-Critical Applications Experience



From the 1960s through today, Indium Corporation has contributed significantly to the U.S. space program. During the inaugural moonwalk, Indium Corporation's materials were used to help seal the containers that brought rocks back from the moon's surface. Since then, the company has participated in several experiments aboard multiple space shuttle missions—including 2020 research that tested sealing materials in the presence of dust—and continues to innovate materials science to advance future space technologies.

From One Engineer To Another®

www.indium.com Contact our engineers: **askus@indium.com**

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INDIUM® CORPORATION®

When Connections Count®

Proven, No-Fail Materials Solutions for Space and Ground Station Applications

Indium Corporation offers

- **Options for manual, automated, and hybrid assembly**
- **Tin-free, Pb-free choices**
- **Materials for radiation hardened electronics**
- **Constant supply due to short shelf life**
- **Products that withstand the extreme temperature swings**
- **Solder Fortification® preforms to add solder volume**

Problems in Space Electronics

- **Maintenance Restriction**—repairs are not possible on launched satellites
- **Harsh Environment**—extreme temperatures, high-frequency, high-radiation
- **Vibration**—must withstand liftoff vibrations
- **Shock**—satellite electronics undergo shock during ejection
- **Outgassing**—deposits on and contamination of surrounding electronics and sensitive components
- **Thermal Cycling**—electronics temperatures can fluctuate by 300°C several times in a day, depending if the satellite is in direct sunlight or on the dark side of the earth within its orbit

Proven Solutions

Products that pass the strictest process and inspection requirements to outlast the effective lifetime of satellites

- **Gold solders**
- **High-purity metal and solder**
- **Pb-containing alloys**
- **Pb-free options**
- **Pure indium**
- **Silver sintering**
- **Solder pastes**
- **Solder preforms**
- **Thermal interface materials**

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