

The Bionetics Corporation's Trace Contaminant Control System Helps Resolve Toxic Smell Incident on the ISS

Bionetics ensured ISS astronaut safety during a toxic smell incident with its integrated air purification system, showcasing space engineering excellence.

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EINPresswire.com/ -- The [Bionetics Corporation](#), a provider of advanced engineering solutions for space missions, has ensured the safety and well-being of astronauts aboard the International Space Station (ISS) during a recent toxic smell incident. The

incident was widely reported on November 23, 2024, after the unpiloted Progress 90 resupply spacecraft was docked to the ISS's Poisk module. The cosmonauts detected an unusual odor and small droplets as the hatch was opened. This prompted swift action to protect the astronauts from harmful air quality. NASA deployed the Trace Contaminant Control Subassembly (TCCS), including a crucial flow meter and other critical components integrated by Bionetics. This system plays a vital role in controlling trace contaminants and ensuring clean, breathable air for astronauts in space.

The Bionetics Corporation was awarded the contract by Lockheed Martin to integrate the various components of the TCCS. This system includes several critical modules, such as Bionetics' flow meter, electrical interface assembly, charcoal filter bed assembly, catalytic oxidizer assembly, and blower assembly. Bionetics carefully tested and integrated these modules to meet the rigorous demands of spaceflight.

"The incident on the ISS was a reminder of how vital air quality is in space," said Collin Eckel, Operations and Engineering Manager at Bionetics CESG. "We are proud that the TCCS was able to resolve the situation. Our system integration expertise and advanced capabilities in thermal management and flow meter design, were essential to the system's successful performance. This mission underscores the importance of collaboration and the seamless integration of



technologies to ensure the safety of astronauts in space."

The system's successful performance in the toxic smell incident highlights Bionetics' extensive experience and commitment to astronaut safety. The modules, which were shipped to Bionetics for system integration, required the company's unique expertise in thermal insulation installation and tight assembly tolerances. Each integrated system component was rigorously tested to meet the exacting standards for space missions.

In addition to the system integration and thermal management, Bionetics also contributed to developing system test procedures and played a key role in acceptance testing. The comprehensive testing and validation process, which included Bionetics' cable assemblies, ensured that all components functioned reliably under the extreme conditions of space.

The Trace Contaminant Control System's swift and efficient response during the toxic smell incident on the ISS serves as a testament to Bionetics' leadership in the field of [space engineering](#) and its dedication to supporting the safety of those working in space.

About The Bionetics Corporation

The Bionetics Corporation is the first company to receive Boeing's Space Station "Exceptional Company Performance Award". With expertise in thermal management, system testing, and environmental control, Bionetics supports a wide range of space missions, delivering critical solutions to ensure the safety and success of astronauts and spacecraft operations. For several years, Bionetics has been a trusted partner for NASA, Lockheed Martin, and other industry leaders, playing a key role in advancing space exploration technologies.

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