METHANESAT

Leveraging a long history of delivering highly calibrated instruments for Earth science, Ball Aerospace is developing the high-performance advanced spectrometer instrument at the heart of the MethaneSAT mission. With the ability to locate and measure methane emissions across the globe, MethaneSAT will provide data that will help to reduce methane emissions, fostering a more sustainable world.

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Overview

Methane is a primary greenhouse gas, which traps heat in the atmosphere, influencing changes in our global climate. MethaneSAT is designed to locate and precisely measure methane emissions around the world with a precision and at a scale never before achieved, giving decision makers a new ability to track, quantify and reduce these emissions.

A 200-kilometer view path coupled with high-resolution sensors makes MethaneSAT unique from other methane monitoring satellites in that it will both deliver methane measurements across large geographic areas and at pre-determined locations. This allows stakeholders to track area trends, while also identifying specific emission locations and rates, filling a key measurement gap between point source and global mapping satellites.

MethaneSAT will regularly monitor regions with high oil and gas production, as well as emissions from industrial agriculture and other human-made methane sources.

MethaneSAT is scheduled to launch in 2022. The mission is being developed by MethaneSAT, LLC, a wholly owned subsidiary of Environmental Defense Fund (EDF), Incorporated, a leading international nonprofit organization.

Our Role

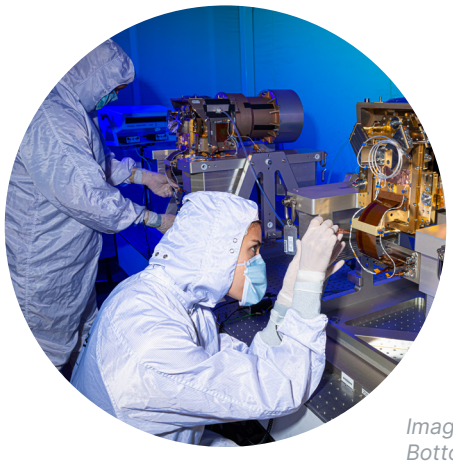
We are responsible for designing and building MethaneSAT's high-performance instrument, as well as providing flight system integration and testing, launch support and commissioning services. Two extremely sensitive spectrometers sit at the heart of the Ball-developed instrument that will measure a narrow part of the shortwave infrared spectrum where methane absorbs light, allowing it to detect concentrations as low as two parts per billion.

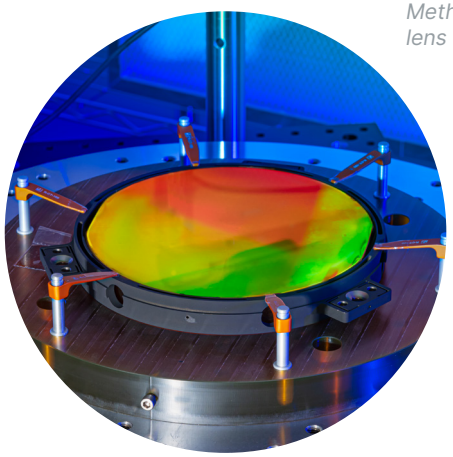
Ball has more than six decades of experience providing leading-edge systems, delivering instruments that span the electromagnetic spectrum for a wide range of government and commercial applications to help predict the weather, map air quality and monitor the Earth's environment.

MethaneSAT fits well with Ball's long history of earth science, our commitment to sustainability and our experience in providing highly-calibrated measurements of environmental factors related to ozone, weather and pollution.

Quick Facts

- Methane has 80 times the warming power of carbon dioxide during the first 20 years after it is released into the atmosphere
- MethaneSAT is the only known high-precision area-source detection system for methane monitoring
- Reducing oil and gas methane emissions 45% by 2025 would deliver the same 20-year benefit to the climate as immediately closing 1,300 coal-fired power plants
- The idea for MethaneSAT was first unveiled by EDF President Fred Krupp in an April 2018 TED Talk





Images (Top to Bottom): Dual spectrometers; MethaneSAT lens assembly.

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