

Ball Aerospace Pollution Monitoring Instrument Launches as Part of NASA's TEMPO Mission

BROOMFIELD, Colo., April 7, 2023 /PRNewswire/ -- Ball Aerospace is celebrating the successful launch of its Tropospheric Emissions: Monitoring of Pollution (TEMPO) instrument aboard a commercial satellite from Cape Canaveral Space Force Station in Florida today. TEMPO is NASA's first Earth Venture instrument mission and will provide critical data on air pollution across North America.

TEMPO will provide high-resolution daytime measurements of key air pollutants hourly as it scans across the continent — coast to coast from Mexico City to the Canadian oil sands in Alberta — giving the scientific community a new tool to improve the detail and accuracy of air quality forecasts.

"The TEMPO instrument is going to revolutionize the way scientists understand air quality and pollution, and it will make a meaningful difference in the everyday lives of people who are sensitive to air pollutants," said Dr. Alberto Conti, vice president, Civil Space, Ball Aerospace. "We're thrilled to be able to contribute this important piece of technology to the mission, which will help keep the public informed with vital health information and provide a robust dataset for additional research purposes."



The TEMPO instrument uses a geostationary ultraviolet/visible spectrometer to determine the concentration and hourly variations of pollutants such as ozone, nitrogen dioxide and more in the atmosphere. The improved spatial resolution and increased frequency of measurements enabled by TEMPO will also provide new insights into area sources of pollution, the way it moves and even the impacts of natural phenomenon like volcanic eruptions.

The Ball-built instrument was produced in tandem with the Geostationary Environment Monitoring Spectrometer (GEMS), which launched in 2020 and provides similar measurements for South Korea's National Institute of Environmental Research.

In addition to Ball Aerospace, the TEMPO team includes the Smithsonian Astrophysical Observatory — part of the Center for Astrophysics | Harvard & Smithsonian — and NASA's Langley Research Center. The instrument is integrated and hosted on Intelsat's Intelsat 40e satellite built by Maxar.

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