



# Moxtek in Space Again – Mars Perseverance Rover 2020

Press Release

**MOXTEK, Inc.**

July 15, 2020

MOXTEK is pleased to announce the launch of another component into space again. The launch of the Perseverance Mars rover will signify the 10<sup>th</sup> time that a Moxtek component has been launched into space flight. This rover, developed by NASA's Jet Propulsion Laboratory (JPL), includes seven important instruments intended to explore and seek evidence of past life on Mars. One of these instruments, the Planetary Instrument for X-ray Lithochemistry (PIXL), is a compact x-ray fluorescence (XRF) spectrometer mounted at the end of the rover's robotic arm and is designed to provide accurate identification of the elemental composition of rock and soil on Mar's surface. The PIXL system uses three Moxtek components including a miniature x-ray tube and two DuraBeryllium x-ray detector windows. NASA/JPL chose Moxtek x-ray windows because of their exceptional dependability in harsh and remote environments and chose the Moxtek x-ray tube because of its compact design, rigidity, and low-power consumption. The Moxtek x-ray tube was specifically designed to couple directly to an x-ray polycapillary optic, developed by X-ray Optical Systems (XOS), for the purpose of elemental mapping. Moxtek's x-ray tube and window enable the PIXL system to provide increased spatial resolution and improved measurement sensitivity. The PIXL system will analyze samples at each test site to determine the abundance and distribution of various chemical elements.

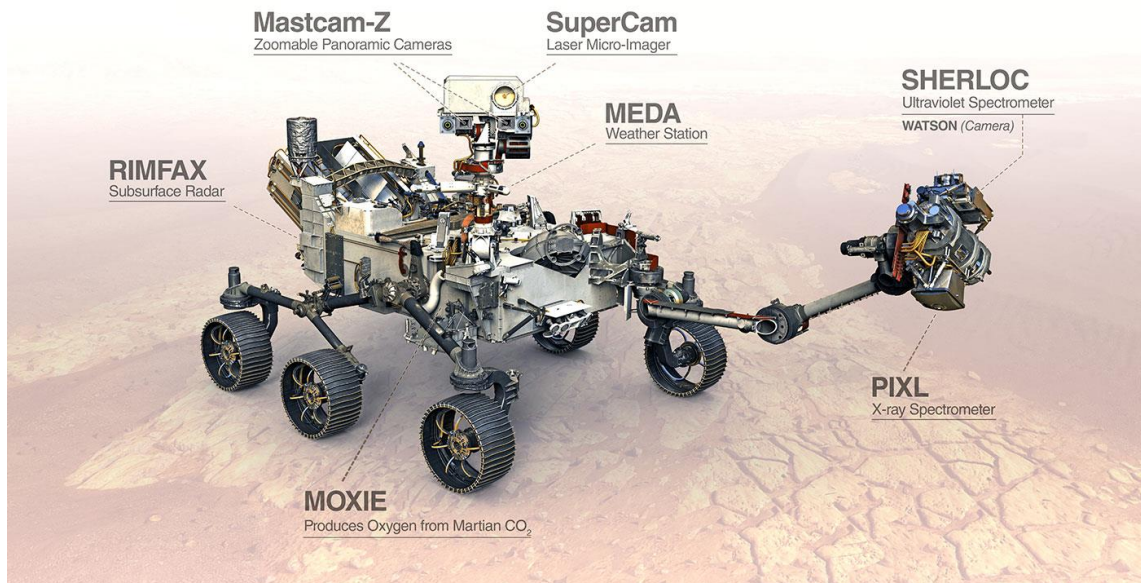
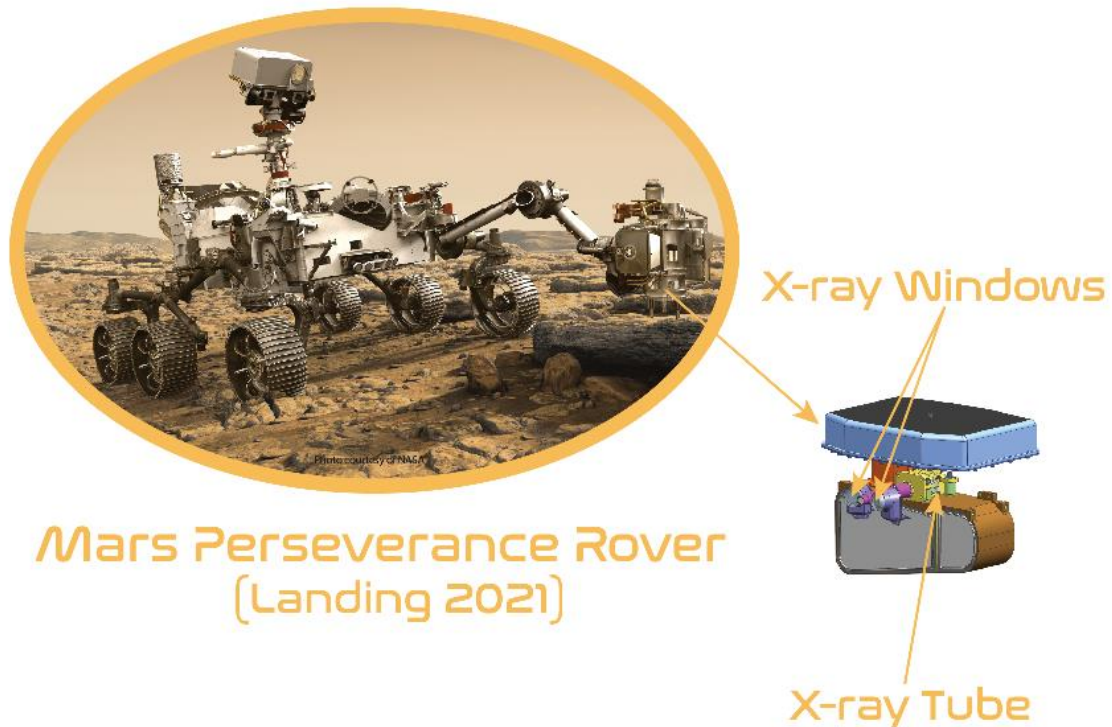


Diagram of the Perseverance Mars rover's science instruments. Credit: NASA/JPL-Caltech

In 1996, Moxtek's provided their first space flight component (x-ray window) to NASA/JPL onboard the Mars Sojourner rover. Since then, NASA/JPL has used a Moxtek window on every Mars mission (Sojourner, Spirit, Opportunity, Curiosity, and now the Perseverance).

**PIXL design with Moxtek components:**



**Previous Moxtek components in space:**

- 2020 Mars Rover - Perseverance (NASA - X-ray Tube & Window)
- 2019 OCO-3 Orbiting Carbon Observatory (NASA - Polarizers)
- 2019 Chandrayaan-2 XSM (Indian Space Agency - X-ray window)
- 2015 Deep Space Climate Observatory (NASA - Polarizers)
- 2014 OCO-2 Orbiting Carbon Observatory (NASA - Polarizers)
- 2011 Mars Rover - Curiosity (NASA - X-ray Window)
- 2003 Mars Rover - Opportunity (NASA - X-ray Window)
- 2003 Mars Rover - Spirit (NASA - X-ray Window)
- 1999 EPIC Camera - XMM-Newton (ESA - X-ray Window)
- 1996 Mars Rover - Sojourner (NASA - X-ray window)

**About Moxtek:**

MOXTEK is a leading developer and manufacturer of advanced nano-optical and x-ray components used in display electronics, imaging, and analytical instrumentation. For over 30 years, Moxtek has provided innovative, solution-based products and services focused on performance, quality, and value to customers all over the world. Since Moxtek was founded in 1986, they have been actively engaged in the development and manufacturing of innovative technology. Each year Moxtek products enable many new scientific discoveries across many fields and markets.

MOXTEK has successfully partnered with many prestigious businesses and research institutions. Today their products are used in a variety of x-ray and optical instruments.

Moxtek manufactures all of their products in their Orem Utah (USA) factory. Moxtek also supports many local groups and charities and is interested in the continued success of our community.