



Helping protect the **Mars Perseverance mission**

AMETEK Pacific Design Technologies (PDT) helps ensure the **safe thermal management of NASA's mission-critical spacecraft equipment.**



THE BACKGROUND

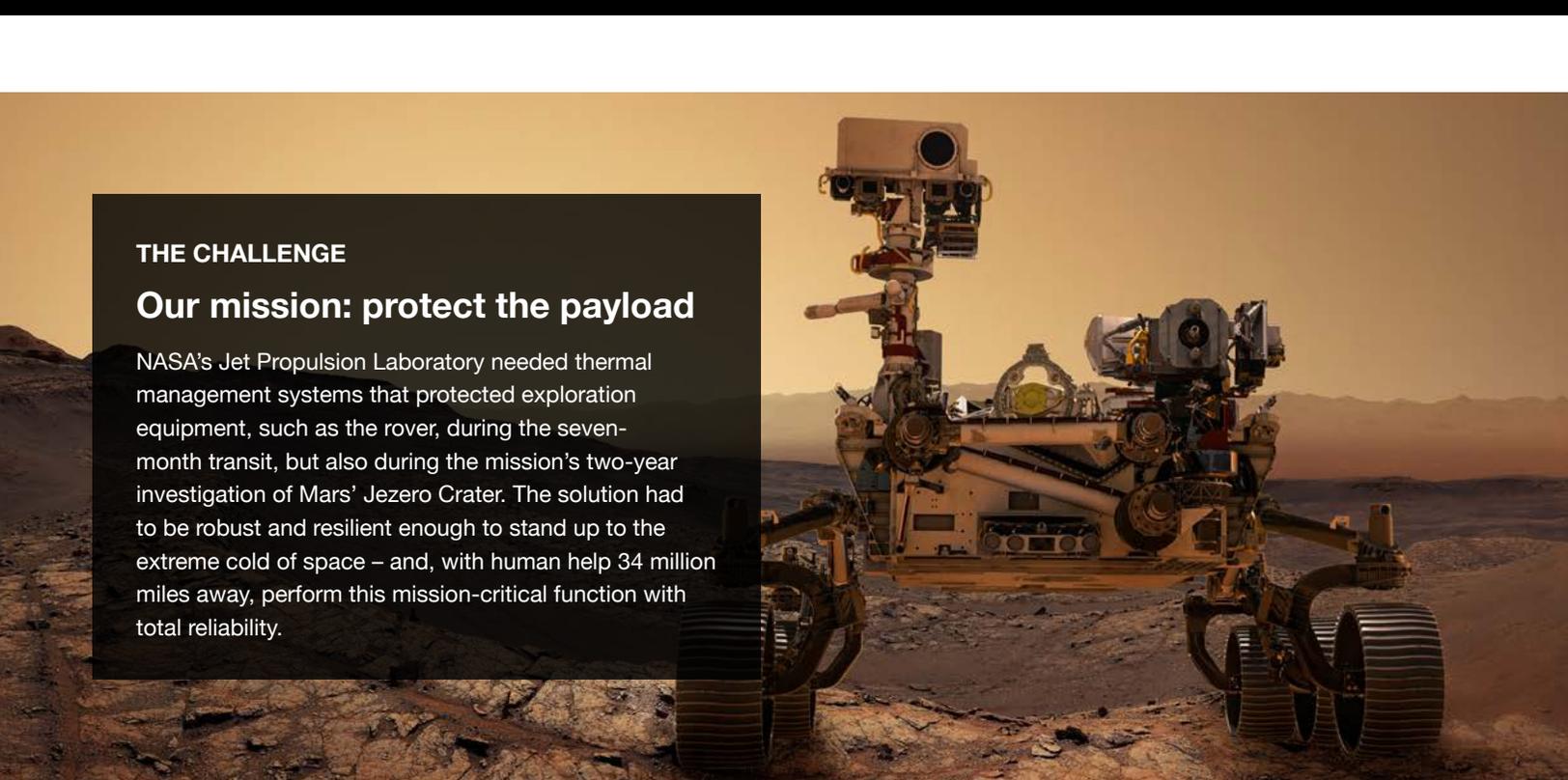
Helping set new courses for space exploration

The conditions of space exploration are harsh and unforgiving: nowhere have these challenges been more formidable than in NASA's development of the Mars Rover program. The high-precision equipment and instrumentation transported through our solar system faces extreme temperature conditions, from launch, across the vacuum of space, to the unfamiliar conditions of a new world.

This expensive and fragile hardware relies on trusted, cutting-edge partnerships to keep it safe - including AMETEK Pacific Design Technologies (PDT), whose innovative thermal management technology helps protect mission performance millions of miles from home.

Great exploration needs great innovation

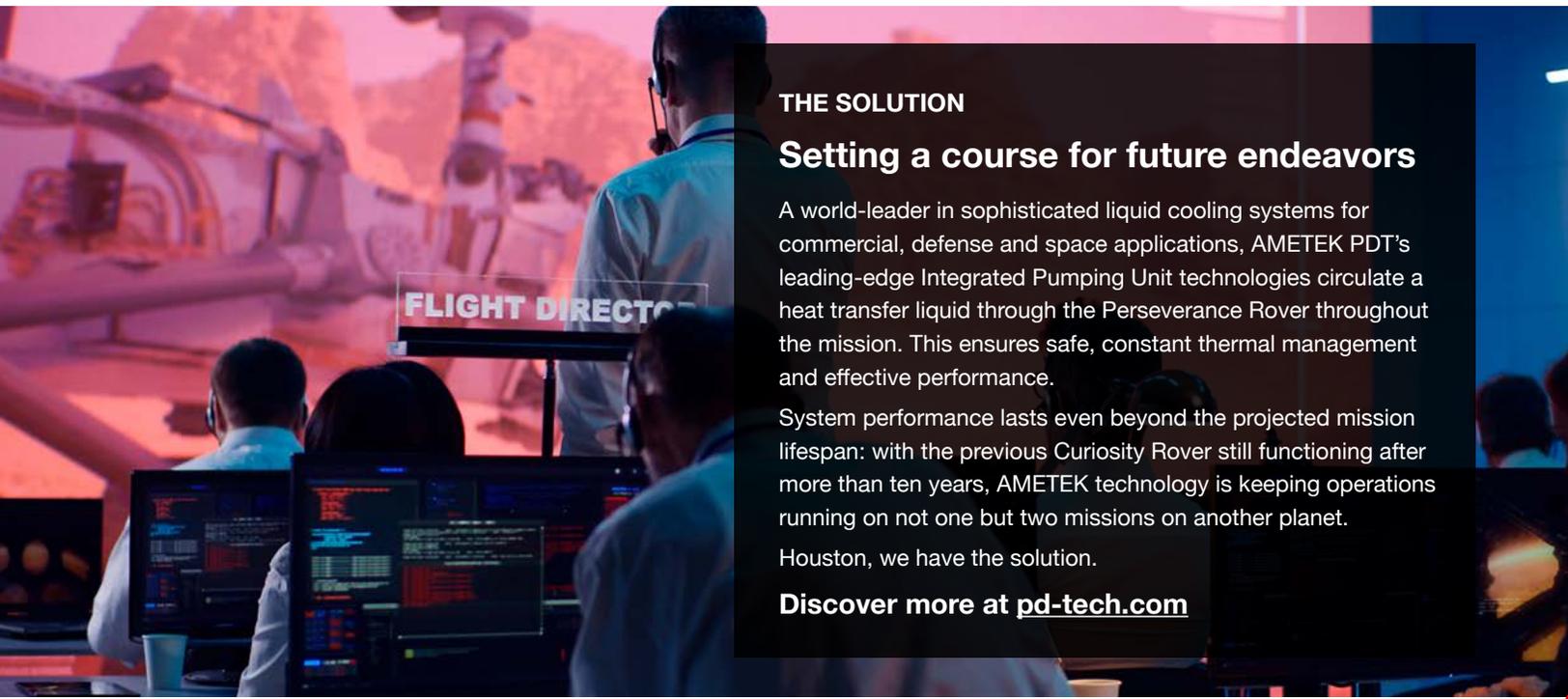
AMETEK PDT has a long history of participation in the US space program, working with NASA to supply systems and components for three robotic missions to Mars and two experimental platforms on the International Space Station. Having provided integrated pumping units for the Sojourner, Spirit, Opportunity and Curiosity Mars programs, PDT embarked on its' biggest mission yet: keeping the Mars Perseverance Rover thermally controlled over its two-year mission to explore the red planet.



THE CHALLENGE

Our mission: protect the payload

NASA's Jet Propulsion Laboratory needed thermal management systems that protected exploration equipment, such as the rover, during the seven-month transit, but also during the mission's two-year investigation of Mars' Jezero Crater. The solution had to be robust and resilient enough to stand up to the extreme cold of space – and, with human help 34 million miles away, perform this mission-critical function with total reliability.



THE SOLUTION

Setting a course for future endeavors

A world-leader in sophisticated liquid cooling systems for commercial, defense and space applications, AMETEK PDT's leading-edge Integrated Pumping Unit technologies circulate a heat transfer liquid through the Perseverance Rover throughout the mission. This ensures safe, constant thermal management and effective performance.

System performance lasts even beyond the projected mission lifespan: with the previous Curiosity Rover still functioning after more than ten years, AMETEK technology is keeping operations running on not one but two missions on another planet.

Houston, we have the solution.

Discover more at pd-tech.com

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