NASA's Modular Supercomputing Facility at Ames Research Center. The facility houses the agency's newest petascale supercomputer, named Aitken, to help solve NASA's most challenging problems in an environmentally conscious way that provides flexibility, power efficiency, and cost savings. Aitken's name comes from a large impact crater on the surface of the far side of the Moon's south pole, which was named for Robert Grant Aitken, an American astronomer who specialized in binary star systems. *Derek Shaw, NASA/Ames*

NASA's new Modular Supercomputing Facility site has enormous potential for expansion. This artist concept depicts the site fully populated with 12 compute modules and 3 data modules. If fully populated with the computational nodes deployed in the first module, this would represent a system with more than 1.6 million cores with a theoretical peak of over 130 petaflops. *Marco Librero, NASA/Ames*

National Aeronautics and
Space Administration

The Evolution of NASA's High-End Computing Capabilities

For over 35 years, the NASA Advanced Supercomputing (NAS) Division at Ames Research Center has housed and managed the U.S. space agency's largest supercomputing assets. Focused on high-end computing technologies, efficient operations, and user success, the NAS Division has worked with industry to deploy a series of highly successful systems that enable scientific and engineering achievements across NASA.

The complementary role of the High-End Computing Capability (HECC) project is evolving to meet NASA's future challenges in returning to the Moon as a pathway to Mars, while continuing exciting research in aeronautics, space exploration, and Earth science.

William Thigpen, NASA Ames Research Center

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