

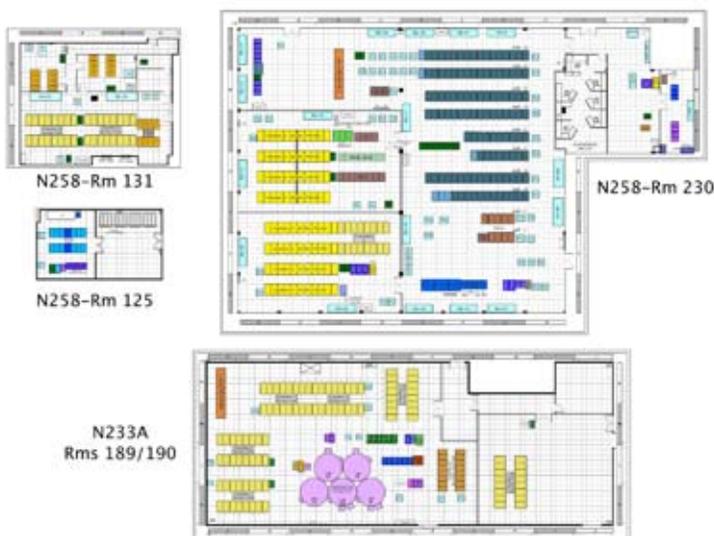
## Computing Technology

# The Evolution of HECC Computing

NASA's High End Computing Capability (HECC) project has evolved from essentially a single computing environment centered on Columbia, an SGI constellation cluster with 512- and 2,048-core nodes, to a heterogenous environment providing two complementary computer architectures. The current environment features Pleiades, a 56,320-core SGI standard cluster, along with Columbia. The design of Pleiades and the combination of processor and memory make it one of the greenest general-purpose systems in the world. Supplemented by Schirra (a smaller IBM system), the current environment offers HECC users a spectrum of architectures to best meet their requirements.

HECC supports all four of NASA's mission directorates by providing the hardware assets (computing, storage, and networking) and services to exploit those resources, including data analysis and visualization, application porting and scaling, user support, and security.

Simulations run on the HECC systems provide scientists and engineers with better insight into aircraft and spacecraft design, and our planet and the universe.



Spread across four computer floors, the HECC environment provides NASA scientists and engineers with a unique compute environment to solve unique challenges.

<http://www.nas.nasa.gov>

[www.nasa.gov](http://www.nasa.gov)



*The Pleiades system provides a green environment to study our world and universe.*



*The hyperwall-2 is connected directly to both Columbia and Pleiades through the InfiniBand network, providing unprecedented inline data analysis capabilities.*

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