

NASA Technology to Enhance 'Green' Building's Efficiency

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(PhysOrg.com) -- NASA today announced that it is collaborating with Integrated Building Solutions (IBS), Inc. to develop a next-generation intelligent, automated, and integrated environmental monitoring and management capability for office buildings and research environments.

The building control systems being developed jointly by NASA's Ames Research Center, Moffett Field, Calif., and IBS signal a new era in the evolution of 'green,' sustainable buildings. They will enhance energy efficiency, reduce [energy consumption](#), and maximize worker performance and comfort. 'Sustainability Base,' the environmentally friendly building that is being constructed at NASA's Ames, is expected to be completed in late 2010 and will be a testbed for these new 'smart' systems.

"We are thrilled to be applying NASA aerospace technologies to our everyday living and working environments," said Steven Zornetzer, associate center director at NASA Ames. "This collaboration represents the first of many research partnerships for Sustainability Base that will bring NASA technologies down to Earth and connect them with capabilities from the private sector to leverage taxpayer investment and improve the quality of life for everyone."

Ames engineers are working with their IBS counterparts to repurpose NASA-developed software systems for health and resource planning into a building environment. The NASA technologies were originally developed for everything from aircraft control systems to mission

planning for the [Mars rovers](#), Opportunity and Spirit. A suite of these NASA software tools is now being integrated with IBS's Intelligent Building Interface System. The latter provides centralized management, monitoring, automation, and analysis of building systems in an intuitive, browser-based console. The resulting building-control system will interpret data from sensors and merge this information with occupancy calendars and local weather predictions.

Multiple sensors deployed throughout the building will monitor its power demand, air temperature, moisture, air flow, light levels, and water consumption. The system will “learn” about the facility’s dynamics, including the human component, and will continuously evolve to produce better operational outcomes based on identifying connections, consequences, and trends.

"The resulting integrated intelligent controls system will gather information about the [building](#) and its subsystems, the occupants, the resources available, and upcoming events," said Dougal Maclise, lead engineer for the Integrated Systems Health Management Technology Maturation Group at NASA Ames. "It then will use this information to plan and implement a control strategy to maintain the comfort of the occupants, while minimizing energy consumption and its carbon footprint."

"We believe that combining NASA technology with our own software represents the future in smart building-control and automation technology," said Eugene Gutkin, President of IBS. "We are thrilled to be working with a great partner like NASA on this exciting and groundbreaking project."

Provided by JPL/NASA

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