Los Alamos structure-damage software wins R&D 100 Award

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SHMTools monitoring project takes home prestigious award

LOS ALAMOS, N.M., Nov. 18, 2015—A software package called SHMTools, which can detect damage in a variety of structures and was developed at Los Alamos National Laboratory, won an R&D 100 Award Friday.“This R&D100 award highlights the Laboratory’s tremendous strength in structural health monitoring, and our long-standing collaborations with the University of California,” said Carol Burns, Deputy Principal Associate Director of the Laboratory’s Science, Technology and Engineering directorate. “The impact of SHMTools is very significant; the software has been downloaded by more than 300 users in academic, private and government institutions.”

About SHMTools

Structural Health Monitoring (SHM) is quickly becoming an essential tool for improving the safety—and efficient maintenance—of critical structures, such as aircraft, pipelines, bridges and dams, buildings and stadiums, pressure vessels, ships, power plants, and mechanical structures such as amusement park rides and wind turbines.Los Alamos engineers have developed SHMTools, software that provides more than 100 advanced algorithms that can be assembled to quickly prototype and evaluate damage-detection processes.It is a virtual toolbox that can be used to detect damage in various types of structures, from aircraft and buildings to bridges and mechanical infrastructure.Dustin Harvey, of the Laboratory's Applied Engineering Technology and his team of R&D engineers, including Professor Michael Todd of the University of California – San Diego, developed SHMTools.

The R&D 100 Awards

Since 1978 when it first competed, Los Alamos has won 132 of the prestigious R&D100 awards that celebrate the top 100 proven technological advances of the year as judged by R&D Magazine. These technologies include innovative new materials, chemistry breakthroughs, biomedical products, consumer items, testing equipment, and high-energy physics.In the years since 1995, winning innovations have returned more than $45 million in funding to Los Alamos in the form of Cooperative Research and Development Agreements, Work for Others, User Facility Agreements and licenses. An estimated 80 patent awards have been associated with winners with many more patents pending.Read about all of the Los Alamos projects that were named as finalists for R&D 100 Awards here.All 2015 R&D 100 Award winners can be found here.