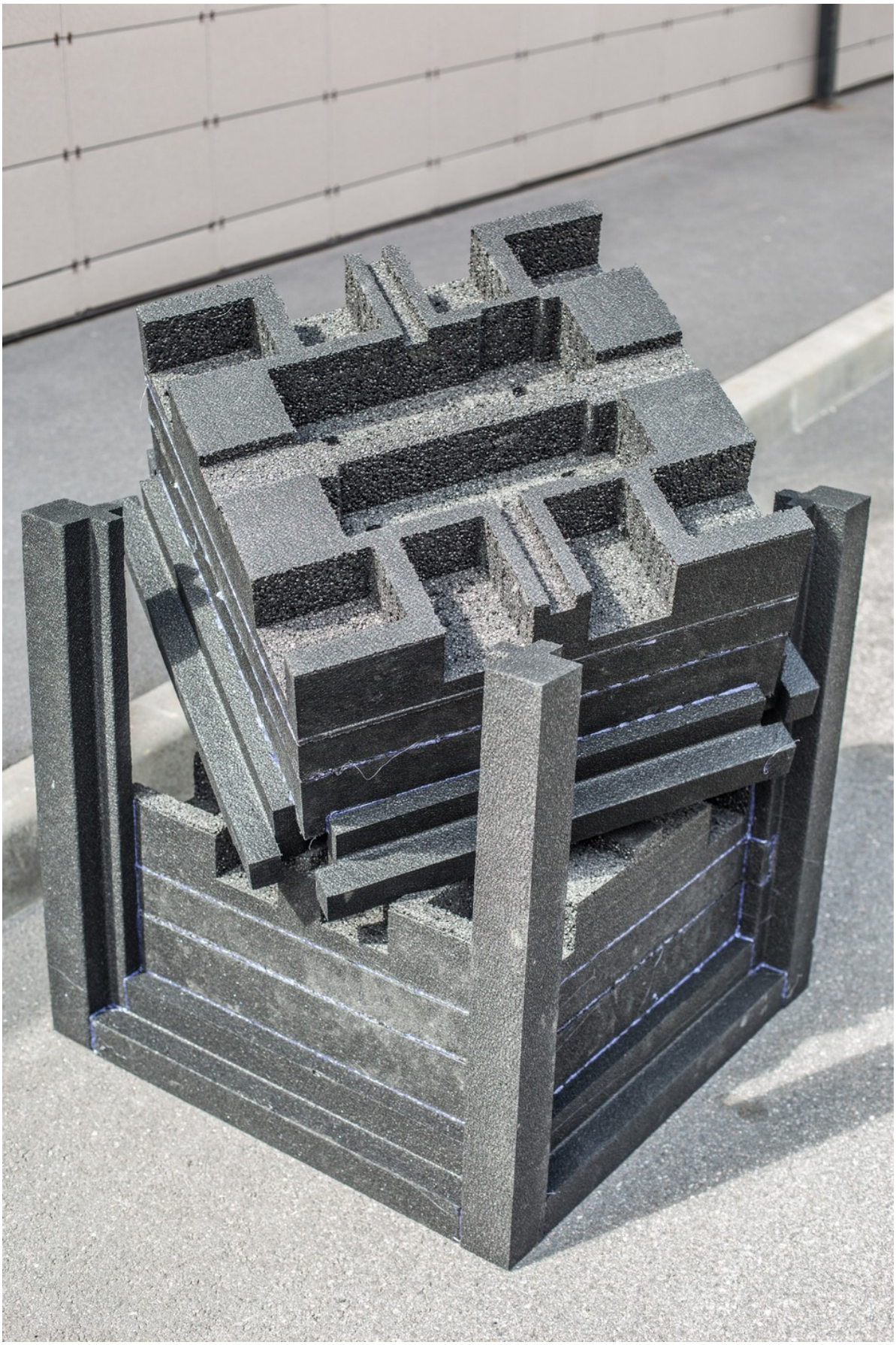
Scientists design unique energy absorbing container

June 23 2017



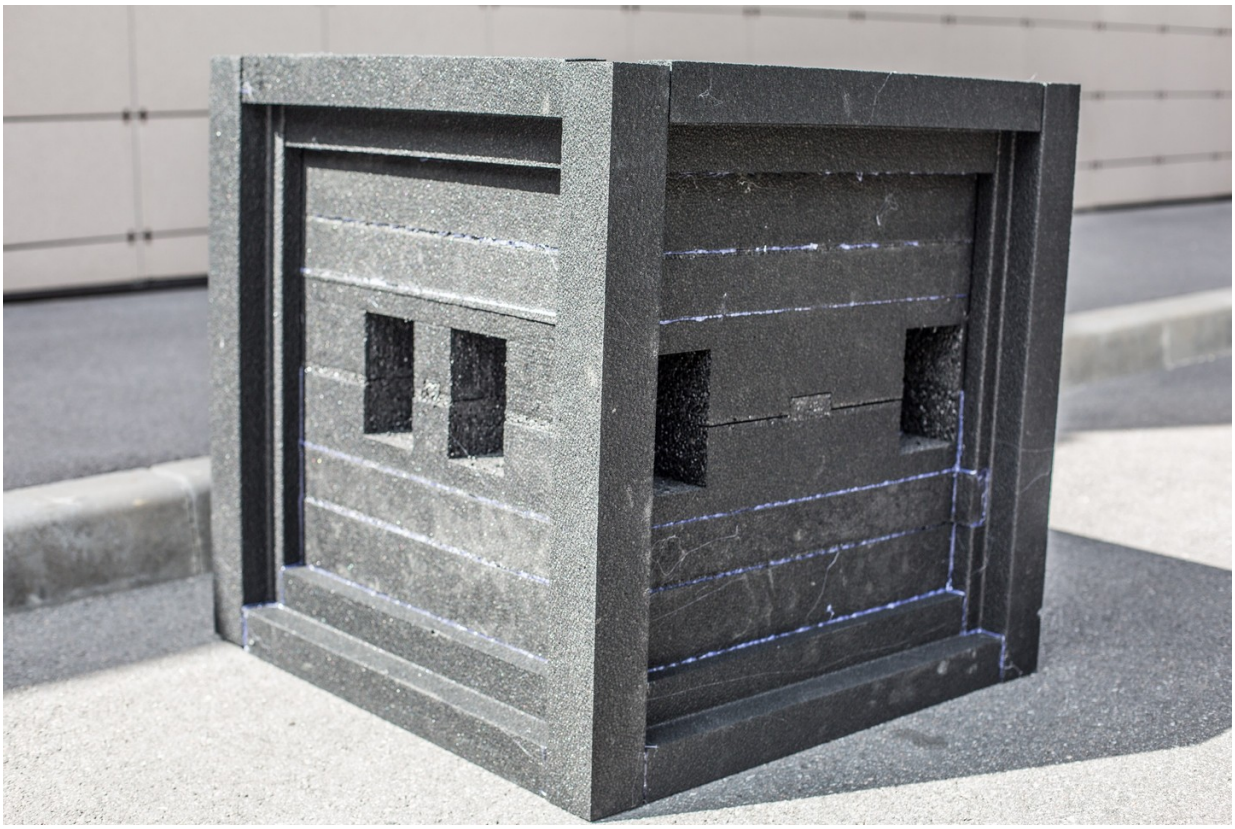
The unique energy absorbing container designed by SPbPU scientists. Credit: Peter the Great St. Petersburg Polytechnic University Computer-Aided Engineering Centre of Excellence (CompMechLab)

Researchers have developed a technology to ensure the safety and efficiency of fragile equipment like high-precision devices weighing up to 8 kg when dropped from 125 meters height to a hard surface. It's a protective container with world's best energy absorption characteristics designed and manufactured at Peter the Great St. Petersburg Polytechnic University Computer-Aided Engineering Centre of Excellence (CompMechLab) in collaboration with LLC 'Special and Medical Equipment'.

The container was developed on an impressively short timeline. From establishing the main objectives to prototype production and full-scale tests in which researchers dropped it from a helicopter to a concrete surface, development was conducted within only 38 days.

"Full-scale tests confirmed the complete safety and efficiency of the protected equipment," says Prof., Dr. Alexey Borovkov, Vice-Rector for Advanced Projects of Peter the Great St. Petersburg Polytechnic University (SPbPU).

The technology demonstrates the results of Simulation & Optimization-Driven Design and Manufacturing paradigm, which allows developers to create globally competitive customized products of new generation in the shortest time.



The project of the protective container was implemented within the Digital Factory (TechNet, National Technology Initiative). Credit: Peter the Great St. Petersburg Polytechnic University Computer-Aided Engineering Centre of Excellence (CompMechLab)

Provided by Peter the Great Saint-Petersburg Polytechnic University

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