

Fighter jet training dome shows 360-degree view

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RP-360 dome: 360° immersive dome setup for flight training

(PhysOrg.com) -- The word "simulation" can never be taken lightly in preparing fighter-jet pilots for combat. Training needs to provide simulated experiences that can bring the pilot closer to the scenarios to come. That requires state of the art systems including state of the art visuals. A new immersive 360-degree flight simulator from Barco has been introduced as an important step up in flight training.

The Barco R-360 flight simulation dome is introduced by the company as the first [flight simulator](#) to give trainee [pilots](#) a full unobstructed [360 degree view](#) of the world.

That view is via thirteen or fourteen 10 megapixel projectors. These projectors bathe the structure in light. Lasers are used to calibrate the projectors. The trainee pilot inside the dome experiences the virtual flight with the benefit of having a 360 degree, unobstructed view of surroundings. Pilots can look in any direction to find the resolution is so good that they can spot aircraft from 12 miles away.

“If a pilot has a cockpit where he can see 360 degrees, he also needs to be trained in a system which supplies 360 degrees; all deviation from real life can be dangerous,” said Geert Matthys, Barco research and development manager.

To simulate night flights as part of training, Barco's projectors can display images in infrared. Wearing night vision goggles, pilots can see halo and blooming effects.

The simulator is for use with several pilots working together to play out complex training missions, such as mid-air refueling, and can also be used to train pilots for solo sorties.

Barco product details include 10-megapixel projectors with DynaColor (automatic color calibration across channels); brightness equalization across channels; edge blending for one seamless composite image; and warping (precise geometry correction for curved surfaces). The dome's screens carry a special coating to raise the quality of the images. The sphere shape is intended to provide the pilot with constant eye relief.



The company describes itself as specialists in "large-format projection technology." Barco's dome took several years of work. The dome's development team started up in 2009.

Barco's dome is now carrying a clear message on launch that the simulator is not just another new version but the start of what Matthys calls "a new generation" of simulators.

"We take care of the reflections in such a way that the system contrast is kept to a high level and this, in combination with high resolution and high brightness over 360 degrees, is a breakthrough in the industry."

More information: www.barco.com/en/product/2337

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