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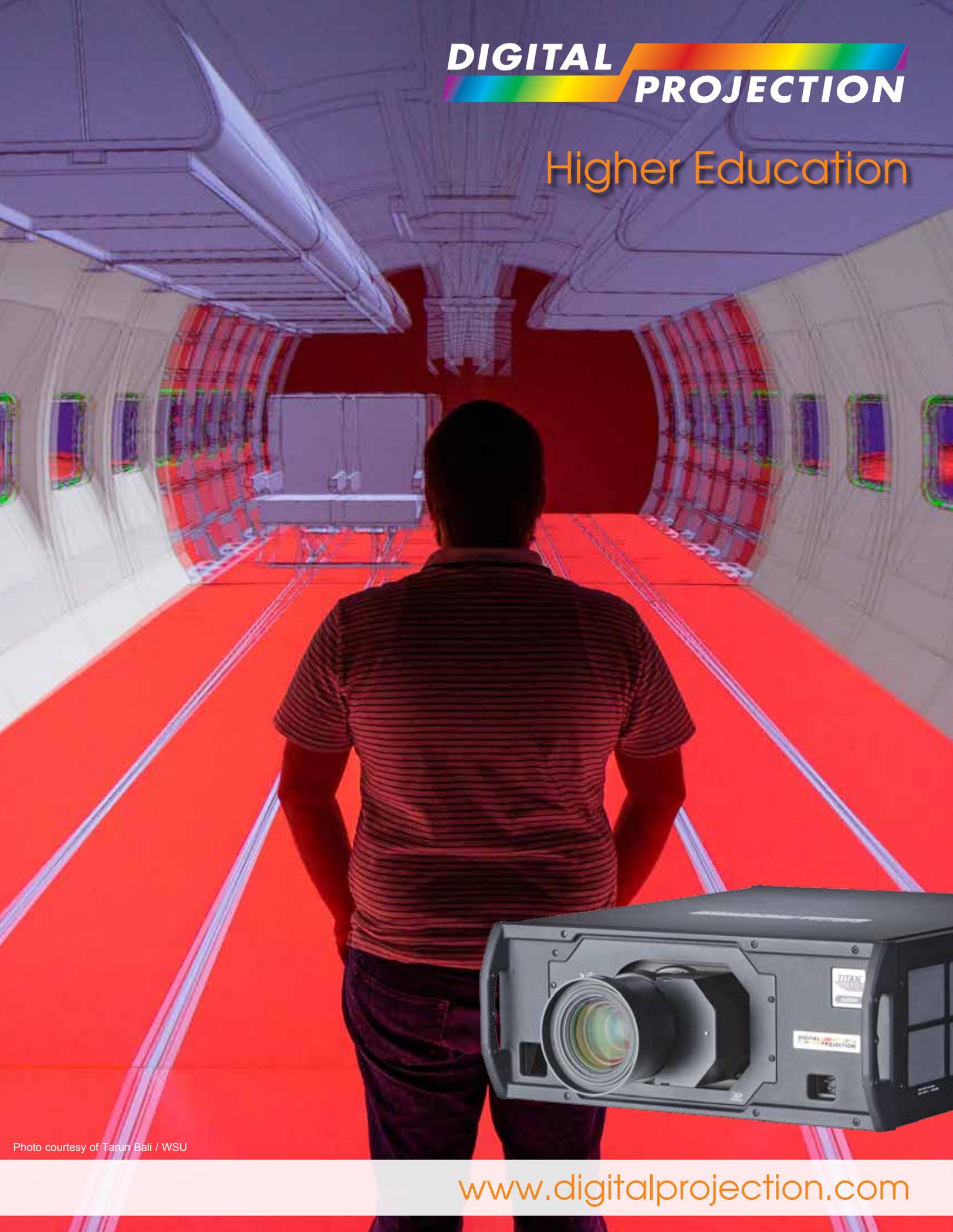


Photo courtesy of Tarun Bali / WSU

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WSU's Projection System Transforms to a Virtual Reality CAVE in Under Two Minutes

On most college campuses, "the cave" would probably be the spot students seek out for a party. However, at Wichita State University (WSU), it's a nickname for a high-tech learning center that's part of the school's National Institute for Aviation Research (NIAR). In virtual reality terms a CAVE is an acronym for Cave Automatic Virtual Environment—essentially a room where the walls and floor are used to display computer generated images simulating a real or imagined experience.

NIAR provides research, testing, and certification to the manufacturers, government agencies, educational entities, and other clients.

"We have a crash dynamics lab, composite testing, simulation, wind tunnels—just about anything that's needed to test an aircraft prior to flight," said Jeff Fisher, NIAR virtual reality lab manager. "We're part of the university, but we're primarily self-funded, so we operate more like a business."

In fact, because of NIAR's work, WSU ranks first in the nation in industry-funded aerospace R&D., to the tune of approximately \$42-45 million per year.

Recently, Wichita State partnered with software company Dassault Systèmes, referred to as "the 3DEXPERIENCE Company", as well as Mechdyne, a broad-based technology partner specializing in audiovisual and information technologies (AV/IT), visualization and software solutions, immersive virtual reality technologies, and technical support services headquartered in Marshalltown, Iowa. The goal was to create a virtual reality system that would allow designers to experience mock-ups across multiple industries such as aerospace/defense, life sciences, and industrial equipment. Funding for the project was made possible by a 2015 grant from the U.S. Department of Commerce Economic Development Administration.

"The conversation started a couple of years ago, when we first started to look at visualization systems to aid our Multi-Robotic Advanced Manufacturing system," said Fisher. "We started looking at larger visualization systems and we met up with Mechdyne folks and started laying out some of the details from there."

Mechdyne performed the advanced technology solution design, build and integration of Wichita State's system.

"We engaged Mechdyne because of their experience with immersive FLEX visualization systems, including a massive project with Lockheed Martin," said Fisher. "What we liked about Mechdyne from the beginning was their extensive experience and the ability to customize a solution to our needs."

"We build large-scale complex systems like this on a regular basis," said Mike Hancock, Mechdyne vice president. "Visualization is about 30 percent of our business. There is always something unique about each client's solution. In Wichita State's case, they needed a visualization environment large enough to accommodate viewing life-sized aerospace models."

Projector Used: TITAN 1080p LED 3D



Key Features:

- 2,000 lumens / 2,000:1 Contrast
- 1080p Resolutions
- Geometry Correction
- Warp & Edge Blend

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