



Flying Higher with Symbiotics and Matrox

Human performance firm selects Matrox TripleHead2Go to drive triple-monitor A-10 Thunderbolt aircraft simulation and evaluation systems for civil and military pilots

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Matrox TripleHead2Go
Digital Edition



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Mike Norman
Human Factors Consultant,
Symbiotics Ltd.



Images courtesy of Symbiotics Ltd.

Symbiotics uses Matrox TripleHead2Go to drive innovative pilot evaluation system.

In the process of designing a pilot evaluation system for the armed forces and civil aviation sector, Symbiotics selected [Matrox TripleHead2Go](#) external multi-display upgrades to convert single-display systems into triple-monitor workstations. Providing a highly innovative human factors technology to simulate real-life conditions, Symbiotics used Matrox TripleHead2Go to drive a triple-monitor flight simulation station for the candidate, while a second triple-monitor evaluation post is allocated for the examiner to closely monitor and accurately assess the candidate's progress.

The Challenge

[Multi-display flight simulation](#) requires advanced graphics performance at reasonably high resolutions in order to create a realistic and immersive environment—with an immediate visual response to pilot controls—for pilots undergoing testing. The evaluation station also has unique, expanded display real-estate demands so evaluators can simultaneously view and interact with various software components for a thorough evaluation on a well-organized desktop.

Having developed the software element of the system, Symbiotics required a tool that could run two triple-monitor workstations, but with different purposes. The first was the candidate's workstation, which would allow Symbiotics to output a high resolution cockpit arch that would not only introduce peripheral details otherwise lost with single monitor setups, but maintain image consistency throughout. The second was for the examiner's workstation, which would allow the user to conveniently and easily interact with various screens within the software program.

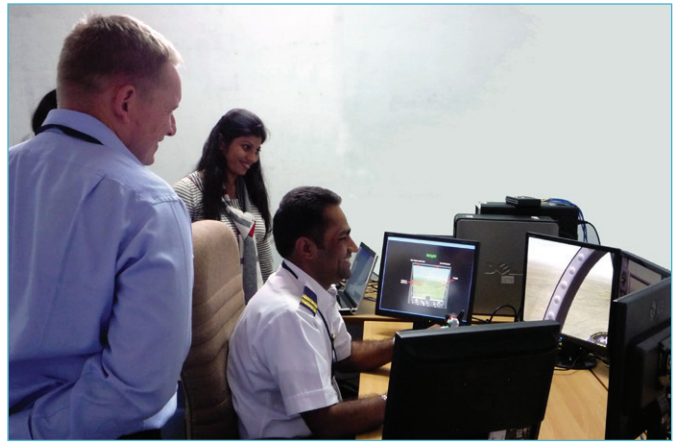
The Solution

Cognizant of their system's multi-monitor criteria, Symbiotics turned to the Matrox TripleHead2Go triple-display upgrade to help complete their simulation and evaluation system.

An intuitive device that was effortless to set up, Symbiotics installed TripleHead2Go with Ubisoft's combat flight simulation *Lock On: Modern Air Combat* for the candidate testing station.



Matrox TripleHead2Go adds up to three monitors to a single system.



TripleHead2Go provides candidates with a realistic—and immersive—flight experience.

Leveraging the system's GPU, the Matrox upgrade was able to deliver a Surround Gaming™ stretched desktop—producing single-game content at a resolution of 3840x1024—rendering the immersive environment that Symbiotics had hoped for. Symbiotics added another level of realism to the testing station by enabling the Matrox Powerdesk Bezel Management™ feature, a utility that uniquely "hides" part of the image that should appear behind the monitor frame, creating a more aligned and seamless view of your environment. This allows the monitor bezels to effectively become part of the flight simulation, comparable to looking through the cockpit of an aircraft where the frames of the window block the pilot's view.

For the evaluation workstation, TripleHead2Go easily provided the necessary triple-monitor workspace to house all of the evaluator's software tools. Furthermore, to make more efficient use of the onscreen space, Symbiotics used the Matrox Desktop Divider feature to customize the ultra-wide stretched desktop to three practical, equal-sized display units. This configuration permits examiners to apply desktop management settings within each unit to simultaneously view and use the software's three components within their own dedicated displays, significantly improving the evaluator's workflow and productivity.

The Result

Symbiotics' ADAPT® selection and assessment tool is currently being used as a civil and military pilot selection program for a global aviation market. In the physical test station, candidates operate from the cockpit of a triple-monitor A-10 Thunderbolt, being assessed on their physical control, cognitive flexibility, and workload management. The examiner sits directly behind the test station, efficiently running each portion of ADAPT's psychometric proprietary software fullscreen, including the examiner interface, psychometric screen, and navigation window.

"The benefits in using the TripleHead2Go are realized through a dynamic localization of monitors to suit our bespoke configuration," says Mike Norman, Human Factors Consultant, Symbiotics Ltd. "While aligning screens alongside one another creates a widescreen immersive display, the ability to split the content of the examiner desktop enables an examiner to work remotely from the candidate field of view."

With an advanced evaluation system, this leading-edge human factors technology not only equips Symbiotics with a product differentiator to accurately assess potential candidates, but also gives their customers peace of mind knowing that they're gaining the right pilot for their program.

For More Information

For more information on Symbiotics and ADAPT, visit <https://www.symbioticsltd.co.uk/> and <https://www.symbioticsltd.co.uk/assessment-selection/full-adapt/>, respectively.

About Matrox TripleHead2Go

Matrox TripleHead2Go external multi-display upgrades are perfect to bring triple-monitor functionality to computers with one monitor, such as systems with integrated graphics or with no available expansion slots, or systems that are already closed and validated. Contact Matrox Graphics to learn more.

Learn More or Purchase

Matrox Graphics offers a wide range of specialized graphics solutions for professional markets such as security, finance, digital media, medical imaging, and enterprise computing. For more information about the entire Matrox Graphics product line, visit www.matrox.com/graphics.

To locate the local office nearest to you, visit www.matrox.com/graphics/contact. For product support, contact your Matrox representative or visit www.matrox.com/graphics/support.

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