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Sidebars

\$65K Flight Simulator Draws Skepticism From Military Buyers

by Sandra I. Erwin

A state-of-the-art flight simulator today costs, in general terms, several million dollars. Prices are driven by capabilities such as the fidelity of the graphics, the availability of motion-sensors, networking options and various other features.

The upshot is that not many government agencies, other than the Pentagon and the Federal Aviation Administration, can afford to buy these simulators, says an industry executive, who recently built a PC-based helicopter flight simulator for \$65,000.



“Most people outside the government cannot afford flight simulators. Most flight schools can’t afford them,” said Mike Coligny, chief executive officer of Flyit Simulators, in San Diego.

“We developed a simulator that the government typically would pay millions of dollars for, and ours cost \$65,000. It’s been on the market since late July,” Coligny said in an interview. Naturally, he said, “people are questioning us, and what we have.”

Coligny has been seeking to partner with other companies in the industry, to “try to figure out how to break through the barriers of skepticism encountered in the marketplace, where many people dismiss the low-cost products, because they “don’t fit into the conventional mindset.”

Some military buyers of simulation equipment have questioned Flyit’s products, said Coligny, because they believe that, unless millions of dollars are spent, the technology will not be capable enough to meet their requirements.

The Flyit helicopter simulator, he said, was tested by pilots from the U.S. military services, the Border Patrol, various flight schools, and corporations.

The program started as an Army SBIR (small business innovative research) project, which sought to develop a helicopter simulator. “The Army wanted it to be realistic enough to perform studies on pilots and the equipment they were using, but it had to be low cost,” Coligny said. “The final result was a helicopter simulator that can hover, take-off, land and fly with realism—for under \$100,000.”

The Army simulator originally was not designed as a flight simulator. It was only meant to be used in research on human factors, such as the effects of fatigue and weather conditions on pilots.

The company is working on a proposal for a simulator to train sailors and Marines how to operate the landing craft air cushioned (LCAC) vehicle. “Their requirement was for a low-cost deployable simulator,” said Coligny. There is a fixed-site LCAC simulator in San Diego, where the Navy brings trainees from all over the world. That simulator cost \$29 million, he said. “We could provide 70 percent of the capability of the \$29 million simulator for \$200,000.”

Asked how it is possible to do so, he responded: “It’s the way you integrate and the way you take advantage of what is out in the marketplace.”

Coligny conceded that the sophistication of high-end simulators is “not achievable” in a PC environment. But the other side of the story, he added, “is that we don’t need all that sophistication for many of the training requirements in the military services.

“There is no question that a \$20 million simulator will look a lot better than a \$200,000 system. But the question you have to ask is ‘do you need it?’ ... You can get 70 percent of the capability for 1/100th of the cost. It’s the other 30 percent that costs so much.”

Even though companies such as Flyit have a difficult time convincing military customers that low-cost systems can work as advertised, defense agencies increasingly are relying on commercial off-the-shelf (COTS) products for simulation and training.

The Naval Air Warfare Center Training Systems Division (NAWC-TSD) recently awarded a \$3.1 million three-year contract to CG2 Inc., based in Huntsville, Ala., to explore the use of COTS visualization and simulation technologies for application to naval air warfare trainers.

“The emphasis is on the use of existing consumer graphics hardware and the development of low-cost deployable trainers,” said Barlow Blake, vice president of marketing at CG2. “We are going to look at off-the-shelf solutions, PC-based, and how we can implement those for the Navy.”

This contract, said Blake, “will help look at emerging technologies and tweak software programs to take advantage of the advanced features available in commercial games.” Even though off-the-shelf video games lack the realism needed in military trainers, he explained, “we want to use software to create new visuals for military simulators, such as infrared and night vision sensors.”

How much a customer should spend, Blake said, “depends on what you will use the simulator for. How close can I get them to reality?”

“We can create a visual environment in a PC simulator that accomplishes maybe 80 percent of what I need at \$100,000, vs. 95 percent at \$10 million. That opens the market for broader use of simulation, such as vehicle simulators to train student drivers.”