

Company: Maelstrom Virtual Productions
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Tracker: Flock of Birds

"The tracked headset... increases the training's effectiveness way beyond textbooks or simple screen-based training modules."

SUCCESS STORY: MAELSTROM VIRTUAL PRODUCTIONS – THE PUMA HELICOPTER REPAIR TRAINER

From exploring the habitat of a Triceratops to challenging soccer fans in a penalty kick shootout, Maelstrom Virtual Productions (Leicester, UK) has cast its virtual reality software in many directions, providing immersive, interactive solutions for divergent industries.

VR programs for architecture, entertainment, pharmaceutical applications and military training have all received highly detailed, realistic treatment from Maelstrom. Each of Maelstrom's software designers has at least a dozen years' experience. Each VR solution is customized, with software and hardware precisely tailored to clients' needs. Maelstrom is independently owned, so they can specify the best hardware possible for each project.

Maelstrom has chosen Ascension Technology's motion trackers for both its interactive entertainment and simulation projects. Ascension's SpacePad tracking device is used in Maelstrom's virtual soccer challenge, tennis game and cricket game. Ascension's Flock of Birds motion tracker is used in a Puma helicopter repair training simulator.



The helicopter repair project began with GKN Aerospace (Surrey, UK) approaching Maelstrom to produce an interactive military training program for teaching technicians specific repair techniques for a Puma helicopter. In response, Maelstrom designed a program that incorporates the use of two fully tracked virtual gloves and a tracked headset with a 3D simulated toolkit and a simulated hangar environment.

The program starts with the trainee inside the hangar. Instructed both visually and aurally, the trainee follows a 15-task, step by step procedure—from selecting tools, removing nuts and bolts, and hammering out a locking nut to removing tie raps. Once the trainee has completed the full training simulation without fault, he or she then has to do it again, this time in the field with time restrictions, under gunfire and with the imminent threat of attack.

The Puma repair simulator positions a Flock sensor on each of the trainee's gloves and one on the trainee's headset. Either 5DT gloves or CyberTouch gloves can be used. With the Flock integration, Maelstrom's software allows every action taken by the trainee to be monitored and recorded—what tools are picked up, how many times a bolt is turned, etc.

The repair program was unveiled and very well received at the Farnborough air show. "The Puma software was produced as a working demonstration," said Matt Davies of Maelstrom Virtual Productions. "The successful integration of software and hardware for this particular repair process clearly illustrates the potential of VR in repair training applications."

Davies added, "Within the headset, the trainee feels as though he is in that environment, under extreme conditions if necessary. This increases the training's effectiveness way beyond textbooks or simple screen-based training modules."

As safety and accuracy become more and more critical in the handling of sophisticated military equipment, the Puma repair simulator proves Maelstrom has brought together technologies to provide solutions equal to the task.

