

1. Immersive Head Mounted Displays, 3D Screen Projection System and Omni-direction Treadmill

The Head Mounted Display (HMD) and 3D Screen Projection System offer varying levels of immersions in the projection of crime scenes. For the HMD, a 360 degree view of the crime scene will be projected onto a goggle worn by the officer. In the 3D Projection System, the HT officer will use an enclosed 3D projection screen to experience the virtual scene. The Omni-directional treadmill allows the HT officer to traverse freely in the virtual environment and can be used in conjunction with the HMD.

2. Usability & Observation Nexus, 3D Body Scanner and the Biomechanics Lab

Usability & Observation Nexus

The Usability and Observation Nexus involves the conduct of experiments on the usability of systems and devices such as mobile display terminals, smartphone applications and handheld biometric authentication systems which frontline officers use in their daily operations. In addition, HT officers' concerns are elicited through engagement sessions and computer-based interviews.

3D Body Scanner

3D Body Scanner automates the extraction of over 100 different anthropometric measurements from frontline officers. This data is factored into the design of ergonomic workspaces, uniforms and devices to improve operational performance. The 3D Body Scanner can also measure muscle density and provide an assessment of fitness levels. It is used to monitor the fitness levels of officers in specialised units, such as officers in the SPF's Special Operations Command, and SCDF's Disaster Assistance and Rescue teams.

Biomechanics Laboratory

The Biomechanics Laboratory assesses the operational equipment that HT officers use and modifies them accordingly to make it more user friendly. An example is the Load Bearing Vest and New Generation Uniform for SPF officers. These equipment had been redesigned to factor in the mobility, agility, balance and comfort of the officers.