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SMARTfloor Raised Access Floor Powers up the Mission at Bush Combat Development Complex

BY MIRA KORBER

The Bush Combat Development Complex (“BCDC”), part of the Texas A&M University System, is paving the way towards national security innovation for the United States of America. The newly renovated, on-campus Fusion Lab leverages the power of SMARTfloor raised access flooring and SMARTdesks computer tables. The mission? Harness real-time data and fine-tune military testing operations more quickly and precisely than ever before.

SMARTdesks computer tables with integrated power modules, in concert with SMARTfloor computer tiles, facilitate real-time data at the BCDC Innovation Proving Ground (“IPG”). Unique to any military research site in the country, the IPG is a 134-acre, outdoor testing site with obstacles for military weapons evaluation. The most unique feature of the IPG is its ability to engage in collaborative

data visualization using a mesh communication system that streams live video, sensing and telemetry data, and real-time situational understanding to the Fusion Lab, where data is projected onto large screens. Analysts in the Fusion Lab can then study, react to, and adjust testing processes almost instantly.

IPG data is transmitted initially through fiber optic infrastructure, and then through SMARTdesks flooring and furniture. First, the mesh WiFi network sends data to analysts’ computers back in the Fusion Lab. Next, the SMARTdesks power and data integration system and the SMARTfloor computer floor allow testing evaluators to plug in their laptops to HDMI ports, conveniently embedded into computer tables, that transmit live data to the Fusion Wall. The entire system is integrated with SMARTdesks Seminar 205 Series Tables with T-shaped legs and wire management.

Ethernet and HDMI run through the table’s wire management system, into strategically placed power and data boxes in the raised access flooring, SMARTfloor. The instant, tidy transmission of data through this system allows testers and evaluators to assess equipment such as tanks, rifles, strikers, shooters, and radios, and alter testing procedures according to what they see projected on the Fusion Wall. As Brian McHugh, Director of Testing at the IPG, explained, “We can start evaluations early on the test, and what that allows us to do is visualize and understand what’s happened, decide what we need to do to fix any issues that we’re having, and then direct those in real time. It’s a game changer in testing.”

Prior to the integrated SMARTdesks installation of raised computer flooring and computer furniture, the Fusion Lab suffered from disorganized wire management, which created

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trip hazards, and an insufficient number of ethernet and HDMI ports for analysts to access and use to project their testing data onto the Fusion Wall. These obstacles prevented BCDC from accomplishing its mission critical goal: getting technology to the military industry as quickly as possible. When McHugh began to look for a solution, he knew it was necessary to eliminate clunky power towers and cables running above the floor to the control room in the Fusion Lab. He also knew there was a need for many more than six ports that were available. That is when he came across the SMARTdesks product, SMARTflor, which is a raised technical floor that allows reconfiguration of wires and power ports into the carpet tiles themselves. After McHugh opened the dialogue, the SMARTdesks Design Team provided several versions of schematics for thirty-six power, data, and ethernet ports, as well as multiple furniture configurations the SMARTflor could accommodate to meet BCDC goals.

As McHugh said, “We wanted a raised floor

where we could run wire under the floor, and then in each desk we wanted to put ethernet, HDMI, and power ports. This way, people wouldn’t need extension cords and we didn’t have to run wires everywhere. And even if wires were running places, they would be running under the floor rather than across the floor.” The SMARTflor elevated floor system provided the perfect solution for McHugh’s conundrum. Because the tiles were installed directly over the existing floor, there was no need to do demolition work or engage in core drilling to install a raised access floor that hid wires from sight, creating a safer and more aesthetic environment. SMARTflor, as a modular access floor, allows reconfiguration of the power and data boxes, should BCDC decide to arrange the computer tables differently or if the need arises to access connectivity in a different part of the room.

One of the main benefits that the integrated SMARTflor raised access floor and SMARTdesks computer lab tables gave BCDC was more efficient testing processes. In

the past, it would take multiple days to harvest data from a test, often gathered after 12+ hours of maneuvering, then downloaded and reviewed over another 12 hours via flash drive. Having a power and data furniture and flooring system

enables analysts in the Fusion Lab to review data streamed in over the mesh network almost instantly. As McHugh said, “this allows us to bring the data in real time from the field and integrate it (data) into whatever device we’re using to project it, so the Test Team can all visualize the event in real-time. The whole idea is that as you see the data, you can make decisions based off what you’re seeing and then make in-stride adjustments to what’s happening in the field to get better data. That’s the collaboration piece.”



The simple, yet effective, power and data integration that SMARTdesks provided for BCDC was customized with the help of the Design Team at SMARTdesks, which matched the high-pressure laminate computer tabletops to existing boardroom furniture on-site, and selected the gray carpet to complement BCDC’s desired aesthetic. Jeff Korber, SMARTdesks Founder and CEO who was deeply involved with the project. McHugh said, “He was excellent, very user-friendly, and very professional. He helped guide me through this process, not trying to upsell me, asking what I really needed, and talking to me about what he thought could meet that requirement.” SMARTdesks provided installation services for the SMARTflor raised access floor, which was installed in one day, ensuring that BCDC operated with limited downtime.

According to McHugh, “Using the SMARTflor raised floor itself is applicable in any environment where people need to access connectivity. The ability to get those wires out of the way is key. I could imagine SMARTflor installed to improve numerous facilities I’ve worked at throughout my career.”

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