TOP-TEC Case Study:

Tata Motors -VR Suite
IMMERSIVE VR SUITE

Background
The National Automotive Innovation Centre based at the University of Warwick, is home to TATA Motors automotive design, engineering and research. The centre houses state of the art facilities that develop future vehicle technologies and sustainable mobility solutions.

In partnership with Warwick Manufacturing Group and Jaguar Land Rover, with further funding from the UK Government’s Higher Education Funding Council for England, the Innovation Centre wanted VR (Virtual Reality) to bring together academics, engineers and designers to innovate through collaborative research projects. One of the ways they sought to do this is by creating a group based, interactive VR Suite.

The Brief
TOP-TEC were asked to specify furniture that could securely integrate high value AV and IT equipment including high spec computer hardware and headsets for a specialist VR Suite that would utilise 3D computer generated & simulated environments. The space would also facilitate group based product evaluation & development reviews and design meetings.

The furniture needed to be flexible enough to be quickly reconfigured to suit differing groups and their activities and should be easily stored to increase floor space as required by the VR activities.

Key Project Criteria:

- Create a flexible & configurable environment that can accommodate differing requirements for the room.
- Provide a station that can securely integrate AV/IT Equipment to control aspects of the VR environment.
- All furniture required non-reflective matte black finishes.

Our Solutions
TOP-TEC proposed three solutions to fit the specifications based on the requirements for the space.
CONTOUR MONO
Control Station

A Control Station was required to facilitate the management of the VR experience for multiple users, controlling the environment within the space and displaying the simulation to those observing using integrated connections to large format displays across the room. To sufficiently accommodate the equipment our Contour lectern was chosen with the following features:

1. **Flexible display solution**
   TOP-TEC installed three monitor arms that are easily adjusted to suit the individual needs of each presenter. Multiple screens could be used to display the activities within the VR environment as well as monitoring the presentation of materials to the rest of the room.

2. **Removable 16U rack with 8U aperture**
   The rack was positioned on the left-hand side of the unit and provides 8U of secure access to the AV equipment used to control different aspects of the room.

3. **Secure Lockable Storage**
   Sited on the left hand side of the unit this allows supporting equipment to be securely stored away.

4. **Light panel / Branding**
   The custom TATA branding was laser cut into the audience facing panel to deliver a clean, illuminated design that could be turned on and off to suit the user.

5. **Matte Surfaces**
   Black surfaces were specified to fit with the general aesthetic of the room and the non-reflective matte finishes were applied to reduce any light pollution for the VR users, helping to improve immersion.

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BRAVO HA Presentation Podium

This Presentation podium needed to be mobile to work with flexible room layouts and height adjustable to suite any user. Importance was placed upon connectivity and control of systems for presentations and commentary to accompany the scenarios being acted out in VR wherever it was required in the room.

1. **10hr On-Board Battery**
   The main function of the unit is to provide a mobile surface that could support a laptop and other peripherals for up to 10 hours. This enables the user to be free to present information where they want or where is most appropriate, without the need to plug into wall sockets.

2. **Height Adjustable**
   Our BRAVO HA variant allows users to work at the most comfortable height for them. This helps to reduce fatigue in longer sessions and is Equality Act compliant providing access for any user.

3. **Mobile Solution**
   Castors allow users to easily reposition the podium in the most appropriate space available, whether that is front and centre delivering presentations or off to the side providing commentary or explanations of what is being displayed on the main screens.

4. **Matte Surfaces**
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FOLDING TABLES
Flexible & Configurable

The room would be used for a number of differing activities alongside the primary function of providing VR ranging from presentations or group discussions to interactive design evaluations. The folding tables specified needed to be flexible and easily reconfigured to create a layout that facilitates any of these activities.

1 Folding Tables
Our folding tables are designed to quickly and easily fold away for storage or redeployment and nest neatly with each other when folded up in order to save even more space.

2 Mobile Solution
Each table was specified with locking castors to provide a flexible solution that could be organised to suit the groups requirements in any number of configurations.

3 Bespoke Worktop Dimensions
TOP-TEC were able to design the tables to a specific size in order to maximise space and utility. The dimensions of 1500mm x 750mm per table were specified for the VR Suite.

4 Locking Configurations
The folding tables clip together to provide greater stability and security when the castors are also locked in place.

5 Matte Finishes
Non-reflective matte black was again used on both paint and worktop finishes to reduce the impact of reflected light on the VR activities.

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TATA wanted a bespoke piece of art that was based off of their corporate logo to be implemented into the design of their primary control point. TOP-TEC proposed this could be laser cut into the audience facing panel of the Contour Mono to create a custom light feature.
THE RESULT
TMETC VR SUITE

From the start TOP-TEC’s designers sought to work closely with TATA Motors to achieve the vision of a dedicated VR Suite that inspired and motivated its staff to utilise the VR technology in their analysis and presentation of products.

The new furniture including a single Bravo HA, a Contour Mono and eleven folding tables were delivered to the site and installed by our in-house team of fitters worked closely with TATA's team for a trouble free and timely installation.

The VR Suite has been a huge success attracting staff from across the site, allowing academics, engineers and designers to get up close and interact with products like never before. The VR Lab offers a unique space with flexible furniture that caters to a wide range of activities, because of this utilisation has grown substantially and the space has quickly become a much sought after resource.

The Contour Mono is used as a control station for all of the AV within the space and is able to monitor resources and control a number of varying aspects in the room.

The folding desks allow for quick and easy deployment of up to 22 seated spaces and can be laid out to suit the requirements of the current group of users.

The Bravo HA works as a height adjustable, maneuverable ad-hoc solution to the change in layout. Designed to be wireless with a 10hr battery life the unit may be used in conjunction with users own devices for presentations and commentary wherever it is required in the room.

“TATA Motors commissioned TOP-TEC to design, manufacture and install 3 bespoke elements of furniture for the VR Suite within the NAIC Building, home of TATA Motors at the University of Warwick.

TOP-TEC consulted with us and understood the requirements of the furniture and the purpose it was intended for.

The end products suited our needs perfectly and have enhanced the capabilities of the VR Suite.”

Chris Carter
Project Manager
TATA Motors

T: +44 (0)121 783 3838
E: sales@top-tec.co.uk
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TOP-TEC is a brand of Dalen Limited
Valepits Road
Garretts Green
Birmingham, B33 0TD

T: +44(0)121 783 3838
E: sales@top-tec.co.uk
W: www.top-tec.co.uk