

ANNEXURE A:

PRODUCT TESTING SHEET OF VISUAL SOLUTIONS

Item	Description	Response Yes/No	Comments on product testing results
1. Content Management System			
1.1	Does the proposed solution include capability for Content Creation, i.e., a CMS that can create content and be updated with new content?		
1.2	Does the proposed solution have capability to manage hardware, by assisting system administrators to monitor and manage digital hardware, including players and screens?		
1.3	Does the solution have capability to download content?		
2. Content Publication			
2.1	Does the solution have capability to transmit dynamic and static content for display at multiple sites?		
2.2	Does the solution have capability for different content to be displayed on different channels at different times?		
2.3	Can content be published in different layouts, across multiple platforms? i.e.: Single Screen/ Single Zone display, Single Screen/ Multi Zones display, Multiple Screens/ Multiple Zones display with same content on all the screens, Multiple Screens/ Multiple Zones display with different content in different screens		
3. Emergency Content Push			

3.1	Does the proposed Digital Signage solution have capability to “Push” Emergency Content and interrupt any previously displayed Content at individual sites at different times?		
4. Dynamic Content Update			
4.1	Does the solution have capability for the system to automatically refresh itself when new Content is received?		
4.1	Does the solution have capability to flip screens between displayed Content?		
5. Near Real-time reporting			
5.1	Does the proposed solution have capability to integrate with TFR’s existing reporting system to extract reports in Real-Time?		
6. System uptime monitoring and warnings of downtime			
6.1	When system downtime or faults occur, can the system send an automatic escalation/alert to a TFR Service technician to investigate?		
6.2	Does the system make provision for Issues/faults unresolvable by TFR’s service technicians to be escalated to the Service Provider for action?		
7. Report Generation			
7.1	Does the solution have capability to generate reports that show periods and durations of screen downtime?		
7.2	Does the system have capability to generate reports of archived content?		

7.3	Does the solution have capability to produce system up-/down- time logs?		
8. Ticker Tape			
8.1	Does the solution provide scrolling text display capability at the bottom of the screen		
8.2	If yes, can ticker tape messages be time-sliced to ensure that the correct messages are scrolling across the screens at the appropriate time of day?		
9. Flexible Playlists			
9.1	Does the proposed solution have capability to create playlists, smart playlists and sub-playlists?		
10. Schedules			
10.1	Does the solution have capability to define and edit playlist time slots with variable recurrence patterns and start/end dates?		
11. Multi-channel support			
11.1	Does the proposed solution have capability to run two entirely separate channels from a single player?		
12. Workgroups/Areas			
12.1	Does the solution have capability to manage access to content for different locations so that it can be possible to show content in specific areas that is only relevant to them? E.g., a weather warning in a particular region		

13. Approvals			
13.1	Does the solution have capability for content to be submitted for approval before media can be played?		
13.2	If yes, will selected users be notified by email when an approval is required?		
14. Player Management			
14.1	Does the solution have capability to group Players by criteria (geography, demographics, etc.)?		
14.2	If yes, is there a capability to set playback options and select content to play?		
15. Maintenance Scheduling			
15.1	Does the solution provide capability to conduct remote maintenance tasks such as reboot, send and retrieve files or install software updates?		
16. Live Data Feeds			
16.1	Does the solution have capability to integrate live data sources directly into the digital signage content?		
17. Performance			
17.1	Does the proposed solution provide high quality playback of content?		
18. Capability & Scalability			
18.1	Is the solution software scalable, in order to accommodate potential growth of the digital network?		
19. Reliability			

19.1	Does the solution offer High uptime (99%) and stability?		
20. Storage			
20.1	Does the proposed solution have capability to save media files on the internal storage, ensuring uninterrupted playback in case of loss of internet connectivity?		
20.2	Does the digital signage software offer unlimited file storage?		
21. Availability			
21.1	Do the DS screens allow for 24/7 operability and will never be blank?		
21.2	Does the proposed DS solution have Remote Monitoring and Network Dashboard capabilities? Does it include capability to generate a dashboard that allows for status monitoring of the digital signage network?		
22. Operability			
22.1	Is the DS system easy and convenient to learn and operate?		
23. Physical Security			
23.1	Will wiring closets be provided to secure media players behind lock and key?		
23.2	Will enclosures or other physical lock-down devices be provided for media players connected at display in public areas?		

23.3	Will enclosures or mounting systems be provided to protect and secure display screens?		
23.4	Will the placement of the DS screens be adequate to deter smash-and-grab tactics?		
24. Security – Device Level			
24.1	Will the Service Provider ensure that the Physical installation of the devices is safe from radio interference, and any CD/ DVD drive access, power buttons and that remote control (infrared) ports can be locked, secured and are generally inaccessible?		
24.2	Will the setup ensure that available ports have to request authentication for use, and that no automatic run settings can be activated when peripheral devices (e.g., keyboard or mouse) are connected?		
24.3	What deterrents are in place to ensure that it would not be possible to simply push content into the player by inserting a CD/DVD or USB card?		
24.5	On the media players, do paths exist to load third (3rd) party applications, spyware, or viruses, i.e., media players must be dedicated and optimized for the sole purpose of playing digital media?		
24.6	Will the operating system (OS) restrict or remove the launching of nonessential services by evoking only the services required for the operation of digital signage media player devices.?		

	(The removal of these additional services offers security benefits such as: Lower memory utilization, Smaller attack footprint (lower chance a vulnerability will be present in the software components), Ease of maintenance, Fewer moving parts leading to fewer conflicts and bugs)		
24.8	Will Media players be set up to only speak to their host servers, or other authorized servers (e.g., Content Distribution Network or CDN, RSS sources)?		
24.9	Do Media players have a software firewall enabled as an extra layer of “just in case” security?		
24.10	Will Media players be installed behind a NAT device to create a firewall between the media player device and the Internet? This makes it far more difficult for a remote attacker to gain access to the media player device?		
24.11	Do Media players use standard protocols like FTP and HTTP for data transfer?		
24.12	Do Media players support only encrypted wireless networks which require authentication to access?		
24.13	Is the Media player control protocol simple, transparent, and based on standards?		
24.14	Does the Digital Signage also support: VPNs – Virtual Private Networks – to facilitate encryption of all traffic?		
24.15	Is HTTPS employed as the standard for bi-directional encryption of information?		

24.16	Are there network Protocols in place that allow for secure server authentication and identification to ensure that the player is receiving trusted information from the servers it communicates with?		
24.17	Do the Media players operate behind a NAT (Network Address Translation) firewall that only allows outbound connections to be established?		
24.18	Does the solution have Antispyware and virus protection systems in place at local level?		
24.19	Does the solution provide user software that has a personalization engine to create and enforce role-based security and authentication? (Each user that is created in the system should be able to create a unique password that is tested for strength during the creation process. This ensures appropriate security measures are taken at the user level		
24.20	Does the system have capability to enforce regular changing of passwords?		
24.21	Does the solution make provision for implementation of normal IT precautions such as patching servers with software updates for security issues?		
24.22	Will Servers be monitored, and are intrusion detection systems must be in place?		
24.23	Will Security audits be run routinely so that possible breaches can be timeously detected and eliminated?		

24.24	Does the system have Capability in place to have media players report on their health?		
24.25	Is the DS system capable of integrating with TFR backend systems, for real-time information that could possibly be displayed on the screens, e.g. train deviations, incident notifications, etc?		
24.26	Will the System be quick to get up once it has been down (not be down for over 3hrs) and information must be recoverable up to a point where the information was last saved?		
24.27	Will the video wall displays be set up such that content is displayed over them continuously?		
24.28	Does the solution incorporate Content Management Software (CMS) that will configure and control the content displayed?		
24.29	Are the Video walls made up of thin, lightweight displays that can easily be moved and reassembled and maintained?		
24.30	Does the solution make provision for prescheduling of content, that can be played at any time?		
24.31	Does the solution make provision for prescheduling of content, that can be played at any time?		
24.32	Can the proposed video wall solution support digital media formats such as images, videos, and graphics?		
24.33	Does the solution provide capability for Authorised users to manage and		

	monitor the display network remotely?		
24.34	Does the video wall display hold any memory?		
24.35	Is the video wall display's operating software capable of encrypting and decrypting data?		
24.36	Will the video walls be made up of multiple displays that work congruently to act as a single display, so image size can be scaled up—or down—without sacrificing image quality?		
24.37	Does the solution include video wall processors/controllers having capability to take inputs from various sources and put them all together, for display on multiple screens?		
24.38	A simplified control interface with a series of button selections, so a user only needs to control the most common or essential functions on a videowall – selecting an input source or a pre-programmed window pre-set.		
24.39	Does the solution have capability to centrally integrate management of all communications, including AV, into a single control system to allow multiple room operations to be performed from a common GUI?		
24.40	Is the system equipped with a limited number of pre-defined window layouts?		
24.41	Does the system have capability to change source window inputs to provide the flexibility for authorised		

	users to change the window layouts as when required?		
24.42	Does the solution have capability to provide an integrated view of critical operational information, to enable collaboration within the value chain?		
24.43	Does the solution have capability to deliver seamless integration of both near real-time and historic information?		
24.44	Will the video walls capability to integrate to the relevant reporting systems (BOBJ, SharePoint, PowerBI etc.), to display reporting detail in near real-time?		
24.45	Will the videowall controller be connected to a dedicated PC that will not only serve as a user interface, but also initiate control commands to the processor?		
24.46	Will the supplier provide an employee engagement solution with capability to broadcast communications to existing endpoints (company issued devices)		
24.47	Does the CSP implement a multi-level security access protocol?		
25. Screensavers			
	Does the proposed solution have capability to turn users' laptops or desktop screens into digital billboards that can drive awareness around current campaigns, alerts and notifications?		
	Does the solution allow for prescheduling of broadcasts of		

	campaigns? If yes, can these notifications be loaded or displayed on schedule?		
	Do the screensavers on the proposed solution support and have capability to display images, videos, flash files and URL's?		
26. Surveys			
26.1	Does the solution make provision for employees to interact with management by way of surveys?		
26.2	If yes, does the solution allow for survey feedback to be saved so that the data can be extracted for reporting purposes?		
26.3	The survey feedback reports must be exportable into different file formats?		
27. Pop-up messaging			
27.1	Is the solution capable of pushing pop-up message alerts to employees' computer screens?		
28. Cyber Security Awareness Questionnaires			
28.1	Does the solution make provision for engagement with employees in the form of multiple-choice questionnaires related to cybersecurity awareness?		
28.2	If yes, are these questionnaires brief popups that are quick to complete?		
29. Ticker Tape			
29.1	Does the solution provide scrolling text display capability at the bottom of the screen.? Messages can be time-		

	sliced to ensure that the correct messages are scrolling across the screens at the appropriate time of day.		
29.2	If yes, can messages be time-sliced to ensure that the correct messages are scrolling across the screens at the appropriate time of day?		
30. Desktop Wallpapers			
30.1	Does the solution have capability to remotely control desktop wallpaper?		
31. Desktop Alerts			
31.1	Is the solution able to grab employees' attention by sending important information via desktop alerts?		
31.2	Is the solution able to ensure that users are not able to delete, miss or block messages delivered to their desktops?		
32. Scheduled Messaging			
32.2	Is the solution capable of prescheduling messages, notifications, or alerts to be broadcasted at a future date?		
33. Mass Emergency Notification Push			
33.1	Can urgent/emergency notifications and alerts be pushed via the solution with a single click?		
33.2	If yes, can emergency alerts and notification be prioritised for broadcasting over any other desk messages scheduled?		

34. Integration			
34.1	Will the solution allow for specific groups (different users, teams, or departments) to be targeted when sending important messages to employee screens?		
34.2	Is the solution capable of Integration to current TFR systems i.e. Active Directory, Microsoft products, SAP?		
35. Mobile Channels			
35.1	Does the solution have the option for messages to be transmitted to mobile devices with multiple visual display formats?		
35.2	If yes, when notifications are created, does the system provide the option of specifying the type of device to send the messages to (mobile option will send to employee's mobile device. The desktop/laptop option will send to employee's desktops/laptops)?		

Respondent's Signature

Date & Company Stamp