



TIPSHEET

Building a Control Room with a Video Wall: *11 key tips for success*

Building a Control Room with a Video Wall

When planning a control room, especially one that features a video wall, careful design and detailed foresight are essential. As experts in Visual Solutions, we've seen it all over the years! So, our team has put together some top tips and things to avoid when taking on a control room, crisis centre or video wall project.

This tipsheet provides 11 key considerations to help you create a space that supports efficiency, usability, and adaptability for mission-critical operations.



1. Purpose and Functionality

Setting a clear purpose for the control room is critical to its effectiveness.

Determine the main objectives and what success looks like for your organisation.

Identify Primary Purpose: Is the control room focused on security, operations, or emergency response? Establishing the primary use will guide design choices, from layout to technology requirements.

Clarify Information Needs: Determine the type and volume of data that will be displayed on the video wall. Defining your information needs ensures the video wall displays the right data, enhancing operator awareness and response time.



2. Ergonomic Design

Designing an ergonomic layout minimises fatigue and ensures operators can comfortably maintain focus during long shifts. A well-designed space contributes to both productivity and well-being.

Optimise Sightlines: Position the video wall at ideal viewing angles for operators. Optimised sightlines reduce eye strain and improve the operator's ability to absorb critical information quickly.

Comfortable Workstations: Arrange seating and desks to minimise operator fatigue over long shifts. Comfortable, ergonomic workstations reduce fatigue and enhance focus, boosting long-term productivity and well-being.



3. Video Wall Technology

Choosing the right display technology directly impacts visibility, clarity, and cost-effectiveness. Evaluate the available technologies based on your control room's requirements and budget.

Select Display Technology: Options include LCD and LED, each with different brightness, resolution, and budget implications. Matching display technology to your needs ensures that your team gets a clear, accurate view without overspending.

High-Definition Real-Time Visuals: Ensure the video wall can deliver HD visuals in real time for clear, effective monitoring. Real-time, high-quality visuals give operators the detail needed for rapid decision-making in critical situations.



4. Content Management Systems

A robust CMS gives operators control over what is displayed and enables smooth integration with various data sources. The right CMS will simplify dynamic content management.

Flexible Content Display: Use a CMS that integrates with multiple data sources and enables real-time, dynamic content management. Flexible content management allows operators to adapt to changing situations, displaying the most relevant information instantly.

Enhanced Control: Choose a system with capabilities for comprehensive, flexible control of all displayed content. Enhanced control ensures the system can handle multiple data types seamlessly, giving operators full control over critical information.



5. Scalability

As your needs evolve, your control room should be able to adapt. Scalability ensures you're not limited by the initial design but can grow with the organisation's demands.

Expandable Infrastructure: Design the control room and video wall infrastructure to accommodate more screens, higher resolutions, and additional input sources as needed. Planning for scalability prevents costly redesigns and allows the control room to grow alongside your organisation.



6. Redundancy and Reliability

Control rooms are mission-critical spaces where downtime can be costly. Building in redundancy helps minimise disruptions and ensures that the system stays operational under most circumstances.

Backup Systems: Include redundancy in key components like power supplies, servers, and failover systems. Backup systems provide assurance that the control room can continue operating even during component failures.

Support and Maintenance: Maintain a strong support contract to minimise downtime and protect your investment. A solid support contract ensures timely assistance, which reduces system downtime and keeps your operations running smoothly.

7. Connectivity and Integration

In today's data-driven world, seamless integration with other systems is essential. Ensuring compatibility and connectivity makes it easy to pull in data for real-time decision-making.

System Compatibility: Ensure the video wall is compatible with current systems, such as surveillance feeds and SCADA systems. Compatibility with existing systems allows the control room to function as a central hub, consolidating data for comprehensive monitoring.

High-Speed Networking: Use fast networks and signal processing for minimal latency and quick data retrieval. High-speed networks ensure that data is relayed to operators without delay, which is critical in time-sensitive situations.

8. Environmental Factors

The control room environment, from lighting to temperature, impacts both equipment and operator performance. Plan for an optimised environment to improve comfort and equipment longevity.

Lighting and Glare: Control ambient light and reduce glare with anti-reflective screen coatings. Reducing glare improves visibility and reduces eye strain, enhancing operator comfort and accuracy.

Ventilation and Cooling: Plan for proper ventilation to handle the heat generated by control room equipment. Adequate cooling protects equipment from overheating, prolonging its lifespan and maintaining system stability.

9. Security

Control rooms often handle sensitive data and need to be protected from unauthorised access and cyber threats. Implement security measures that protect both data and hardware.

Network Security: Use secure protocols to protect data. Strong network security ensures that sensitive data remains protected from potential cyber threats.

Access Restrictions: Limit access to critical systems to authorised personnel only. Restricted access minimises the risk of unauthorised tampering, safeguarding the integrity of your operations.

10. User Training and Maintenance

Proper training ensures you and your team can efficiently use the technology, and regular maintenance keeps everything running smoothly. A well-trained team and well-maintained equipment are vital for long-term success.

Operator Training: Ensure operators are well-versed in using both the video wall and its CMS software. Well-trained operators maximise system capabilities, improving response times and operational accuracy.

Regular Maintenance: Schedule routine cleaning, calibration, and updates to keep the system in optimal working order. Regular maintenance prevents unexpected breakdowns and ensures the video wall operates at peak performance.

11. Environmental, Social, and Governance (ESG) Considerations

Incorporating ESG considerations reflects a commitment to sustainability, inclusivity, and compliance. Aligning your control room with these principles demonstrates forward-thinking and responsible operations.

Environmental: Choose energy-efficient technology to reduce power consumption and lower your carbon footprint. Energy efficiency saves costs and supports your organisation's commitment to sustainability.

Social: Design inclusively, with accessible workstations for diverse operator needs. An inclusive design promotes a positive work environment, accommodating operators with different needs.

Governance: Follow industry regulations for data privacy, transparency, and operational compliance. Adhering to governance standards minimises compliance risks and demonstrates corporate responsibility.

This guide is a roadmap for creating an effective control room that not only serves your business' needs today but is adaptable for future growth.

By working with expert designers and engineers who adhere work with you work with you on each stage of the process. By using mockups or simulations to visualise the control room setup before implementation, you and your team can test layouts and equipment placements, improving decision-making during the planning phase.

With these considerations, you'll be on track to establish a control room that fosters effective monitoring, quick response, and overall operational efficiency.

To discuss your specific control room requirements and goals in more detail, speak to our team of audio visual experts on 03333 442204 or email hello@vizst.com.