



Criteria for Selecting the Right OT Integration System

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Designing or upgrading today's operating theatres demands more than just high-end equipment.

Hospitals are moving toward integrated digital ecosystems that unify video, data, imaging, and device control into one seamless platform. Such OT integration systems not only enhance surgical precision but also improve collaboration, teaching, and long-term hospital efficiency.

Selecting the right OT integration system, however, can be a challenging decision. It requires balancing advanced technology with day-to-day usability, scalability for future needs, and reliable service support. Here are the key factors every hospital project team should consider when evaluating integration solutions.

Centralised Control and User Interface

A modern OT workflow is complex, with multiple imaging devices, video sources, and surgical data streams in use simultaneously. Integration systems with intuitive control interfaces can

significantly reduce workload for surgical staff and minimise training requirements. The ability to control, view, and record multiple video inputs from a centralised interface has become crucial for seamless surgical operations.

Look for systems that offer touch-panel controls, user-friendly interfaces, and the ability to manage simultaneous HD video feeds with flexible viewing options. The interface should be designed with ergonomics in mind, featuring intuitive controls that reduce cognitive workload during critical procedures.

Data Management and Security

Secure handling of surgical data and images is no longer optional. Compliance with standards such as DICOM ensures hospitals get reliable, future-proof storage solutions. Look for integration systems that provide easy retrieval, seamless archiving, and hospital-wide accessibility while maintaining strict security protocols.

Real-time streaming capabilities are important for multi-site consultations and surgical teaching programs. Modern systems should offer built-in video archiving and live streaming capabilities that don't require additional hardware investments.

Flexibility and Scalability

Every hospital is different, and so are its operating room requirements. The best integration systems are modular and can adapt to different stages of a hospital's growth. Whether starting with an entry-level setup for one OT or expanding to a fully customised solution across multiple theatres, scalability ensures the investment remains relevant for years to come.

Consider both fixed installation systems and mobile cart-based solutions. Mobile integration carts have become a practical choice

for hospitals upgrading existing OTs, allowing facilities to achieve digital integration without major renovation work while controlling costs.

Integration and Interoperability

Compatibility with existing and future technology is critical. The chosen system should connect effortlessly with existing surgical, diagnostic, and monitoring devices while remaining future-ready for emerging technologies. Cloud-ready frameworks and web-based platforms help hospitals stay ahead without constant infrastructural overhauls.

This interoperability feature also paves the way for AI applications, predictive analytics, and future system upgrades—all important considerations for long-term strategic planning. Evaluate systems based on their ability to integrate with your current hospital information systems and electronic health records.

Implementation Support and Training

Investing in integration technology extends beyond hardware and software considerations. Strong implementation support, comprehensive end-user training, and ongoing service play vital roles in ensuring hospitals maximise their investment.

Look for providers that offer complete project management services, guiding hospitals through every stage from initial design and workflow planning to go-live training and post-implementation support. This comprehensive approach ensures smooth adoption and better clinical outcomes.

Practical Evaluation Guidelines

When evaluating OT integration systems, hospital project teams should follow these key principles:

- Start early and involve all stakeholders. The most successful OT projects bring together clinical, IT, biomedical, and infrastructure teams at the planning stage.
- Assess facility-specific needs. Evaluate requirements based on surgical specialities, patient volumes, and existing infrastructure to determine essential system features.
- Prioritise usability and workflow integration. The right system should simplify workflows and reduce staff burden, rather than adding complexity to daily operations.
- Plan for tomorrow, not just today. Choose systems that can grow and evolve as your hospital expands and technology advances.

Building Future-Ready Operating Theatres

As hospitals adapt to new surgical demands and technological advances, integrated digital OTs are becoming an essential part of the healthcare infrastructure. When evaluating options, focus on solutions that provide centralised control, secure data management, scalable design, and proven implementation support.

The key to successful OT integration lies in selecting systems that enhance clinical workflows while remaining practical, accessible, and ready for future technological developments. By carefully considering these criteria, hospitals can make informed decisions that support both immediate operational needs and long-term strategic goals.

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