Case Study

Increasing Healthcare Efficiency and Patient Safety with ADLINK Medical-Grade Panel Computers



The global demand for healthcare services is growing, due in part to increases in aging populations, chronic diseases, and patient volumes in emerging countries. These trends and others will boost global healthcare spending, which is expected to rise at a compound annual growth rate (CAGR) of 5 percent through 2023.[1]

With healthcare providers caring for more patients and battling the spread of infectious diseases, medical-grade computers can help by improving healthcare efficiency and patient safety. ADLINK's antibacterial medical panel computers deliver the high performance and a hygienic design needed to meet the stringent requirements of the healthcare industry. This case study describes how a Taiwan-based medical systems integrator, imedtac, deployed ADLINK products to build surgical imaging systems and mobile medical carts to address some of the challenges facing healthcare providers.

imedtac's solutions are widely used by large medical institutions, both at home and abroad, mainly for two reasons: they closely match hospital needs and can be up and running in no time, ready-to-use by medical care teams.

Challenges

Enable faster and safer surgeries

Doctors operating on patients need to view pre-surgery images stored in an archive along with images captured during surgery. When medical imaging devices are located throughout the operating room, doctors must look up and around to find the information they need, which can distract them and slow down the surgery.

Reduce medical device-related infections

Preventing healthcare-associated infections (HAIs) is a top priority in the healthcare industry, and perhaps even more so with the rise in infectious diseases throughout the world. HAIs can occur when the medical device itself becomes contaminated and serves as a means of transmission of microorganisms directly or indirectly from an infected individual to a patient.[2]

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

imedtac 慧誠智醫
Transforming Healthcare Through AIoT

Solutions

An integrated view of medical images increases efficiency and safety

An imaging platform developed by imedtac allows doctors to view multiple medical images from one display built with ADLINK's MLC8 and MLC-AL/MLC-KL medical panel computers. Further addressing patient safety and healthcare efficiency, the solution eliminates the need for doctors to physically press a key with their hand or foot by incorporating gesture recognition.

By implementing contactless switching from one image to another, the platform helps reduce the risk of infection and the time needed to clean the operating room, thereby shortening the operating room turnover time.

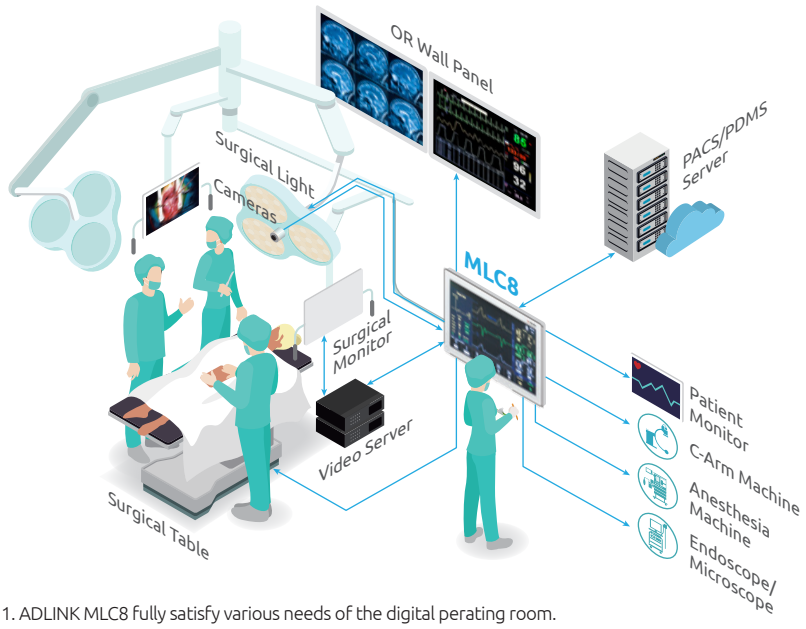


Figure 1. ADLINK MLC8 fully satisfy various needs of the digital perating room.

Hygienic design prevents the spread of infection

A mobile medical cart designed for hospitals facilitates safe, contactless doctor-patient communication and medical data access by combining gesture recognition and video conferencing. Built by imedtac, the cart integrates medical images (e.g., electrocardiogram, ultrasound, and Horus Scope) with information from hospital information systems (HIS) and/or picture archiving and communication systems (PACS). The solution increases the portability and usability of medical devices for both intensive care units (ICUs) and remote healthcare settings.

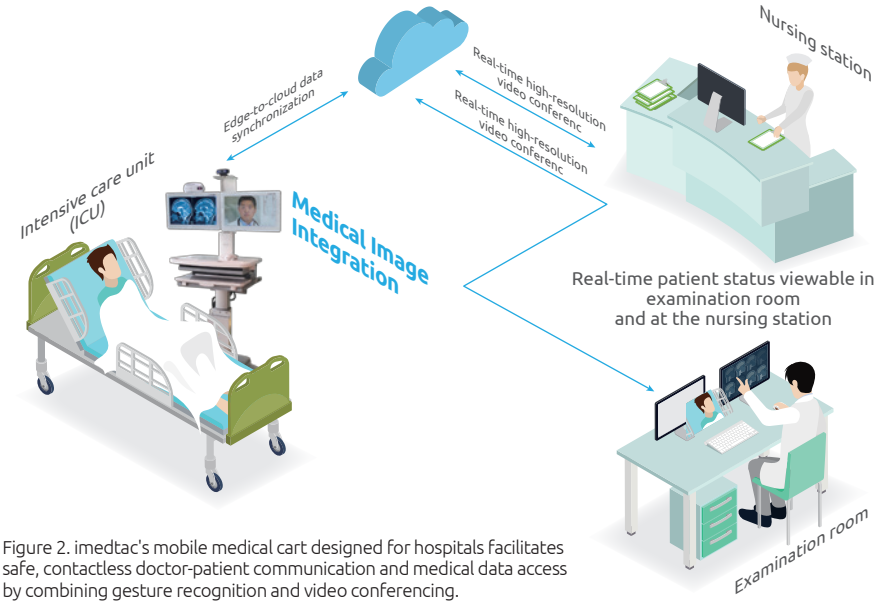


Figure 2. imedtac's mobile medical cart designed for hospitals facilitates safe, contactless doctor-patient communication and medical data access by combining gesture recognition and video conferencing.

Medical-Grade Computers

imedtac's surgical imaging systems and mobile medical carts are respectively based on ADLINK's MLC8 and MLC-AL/MLC-KL medical panel computers that are medically-certified products, suitable for use in operating rooms and ICUs. According to imedtac, even with gesture control, there are still situations when users need to physically enter commands via the touch panel. This is why imedtac selected ADLINK's MLC8 and MLC-AL/MLC-KL medical panel computers with hygienic-design features.

These ADLINK computers allow for easy cleaning by medical care teams after use, prevent bacterial growth in cracks, and shorten operating room turnover time. The hygienic design includes a screwless, fully-sealed housing, edge-to-edge touch panel (no frame), on-screen buttons (no physical buttons), antibacterial surface coating, and IP54 protection.

Integrating ADLINK Panel Computers

imedtac reduces its medical system integration efforts by starting with a standard architecture and then customizing the remaining portion (approximately 30%) to satisfy particular customer needs. ADLINK panel computers fully support this development model, providing high levels of flexibility and functionality. This includes a 4K or full HD display, customizable touch control, and laminated with anti-glare coated safety glass and optical bonding to present clear medical images. ADLINK-based solutions also provide an isolated I/O interface, expansion slots, and network ports to accommodate connection to wide-ranging devices to facilitate system integration.

ADLINK's medical-grade panel computers are IEC/EN-60601-1 and IEC/EN-60601-1-2 certified. These certifications protect the safety of those operating the medical devices and prevent the devices from interfering with one another in operating rooms and ICUs, which help ensure the safety of the operating room staff and patients.

Smart Healthcare Solutions

ADLINK and imedtac are committed to collaborating and bringing smart healthcare solutions with a fresh perspective to the healthcare industry. For information about ADLINK medical-grade panel computers, please visit https://www.adlinktech.com/en/Medical_Panel_PC_Display.

[1] Deloitte, "2020 Global Health Care Outlook," https://www2.deloitte.com/global/en/pages/life-sciences-and-healthcare/articles/global-health-care-sector-outlook.html.

[2] Issues and Outcomes from the September 2016 forum, "Preventing Device-Related Healthcare-Associated Infections," https://s3.amazonaws.com/rdcms-aami/files/production/public/FileDownloads/Summits/161227_AAMI_HAI_Forum_Report.pdf.

All products and company names listed are trademarks or trade names of their respective companies
Updated August 2020 © ADLINK Technology, Inc. All rights reserved.
All specifications, pricing, and product names are subject to change without notice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000