

SWISSLOG CASE STUDY

ORLANDO REGIONAL HEALTHCARE DOWNTOWN CAMPUS

Conversion results
in improved
performance across
sprawling downtown
medical campus.



The Hospital

Orlando Regional Healthcare is one of Florida's most comprehensive private, non-for-profit healthcare networks. The 1,780-bed system includes eight hospitals in the greater Orlando area. The downtown campus includes Orlando Regional Medical Center, Arnold Palmer Hospital for Children, and the new Winnie Palmer Hospital for Women & Babies.

Orlando Regional Medical Center is a 581-bed facility and the only Level I Trauma Center in Central Florida. It is also one of the largest providers of intensive and progressive care services.

Arnold Palmer Hospital for Children, supported by the Arnold Palmer Medical Center Foundation, is a 158-bed facility dedicated exclusively to the needs of children.

Winnie Palmer Hospital for Women & Babies, supported by the Arnold Palmer Medical Center Foundation, is a 285-bed facility dedicated exclusively to the needs of women and babies. The hospital includes comprehensive fetal diagnostics and labor and delivery services, a regional center for neonatal intensive care, maternal intensive care and women's services.

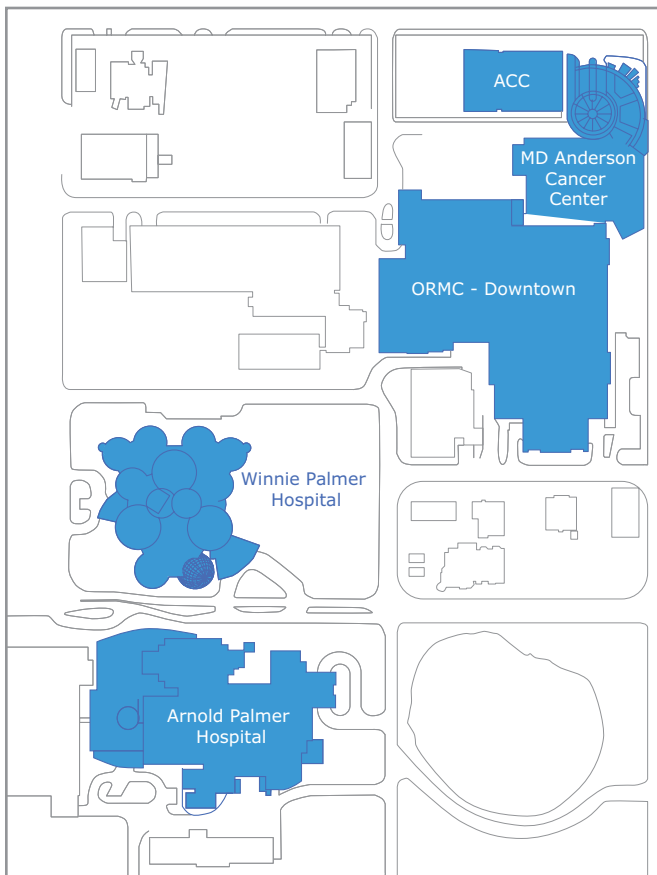


The Challenge

The pneumatic tube system at ORMC began small and expanded dramatically in the late 1990s. The original two-zone system was installed by Swisslog in the late 1980s in Arnold Palmer Hospital with service to the

central downtown campus laboratory. Within a few years, the system had been expanded to seven zones to include the entire ORMC facility.

A decade later ORMC increased the tube system connectivity with an additional five zones. The system, provided by Quantum Industries, crossed from Orlando Regional Medical Center and the M.D. Anderson Cancer Center Orlando to Arnold Palmer Hospital located several blocks away—a distance of more than 1,500 feet from the ORMC laboratory.



Although the system generally worked well, it was more difficult to maintain and some departments had performance issues. "The pharmacy was constantly complaining about not having enough carriers," recalls Chris Coventry, ORMC Facility Manager. "Staff would walk the hospital at night collecting carriers throughout the hospital," he said. "They would lose many hours a week of productivity from this." Returning empty carriers to their destination was sometimes time consuming as station wait time (the time from the moment the SEND button was pressed to the time the carrier left the station) was typically three to four minutes. ORMC needed a technologically advanced system that could efficiently meet the needs of an ever expanding hospital complex as planning was starting on the new Winnie Palmer Hospital and the Arnold Palmer Hospital expansion.



The Solution

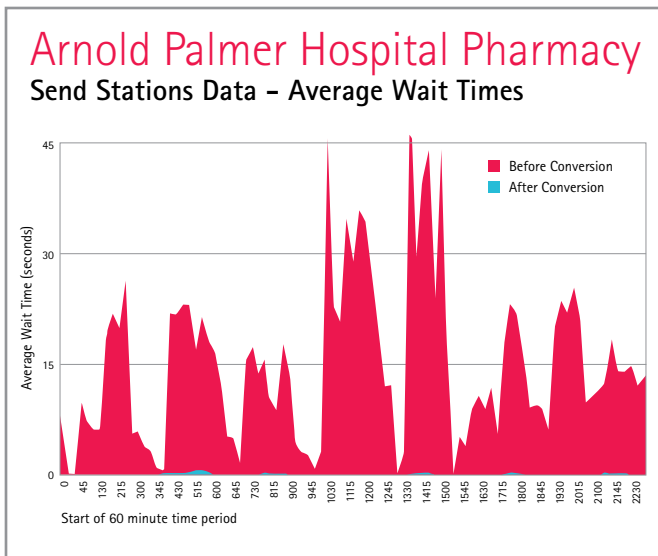
The System Conversion

Planning for future growth of the medical complex around centralized laboratory and pharmacy services required a sophisticated pneumatic tube system that handles high traffic over long distances efficiently and provides a platform for future technical advances such as RFID carrier tracking. ORMC selected Swisslog's TransLogic pneumatic Tube System for the cross-campus conversion and expansion. The complete six-inch system now includes 114 stations arranged on 22 zones, including an expansion to the new Winnie Palmer Hospital for Women and Babies. This upgrade also includes two sets of Xpress Zones. Xpress Zones are an advanced system design unique to Swisslog, that enables multiple carriers to be transported within a zone simultaneously across long distances. It enables remote buildings and satellite facilities to be efficiently connected to centers of operation. Xpress can move carriers beyond a mile with a high degree of efficiency. Xpress features a high-speed interchange between zones and the Xpress Station, which can be arranged to send and receive a carrier every ten seconds.

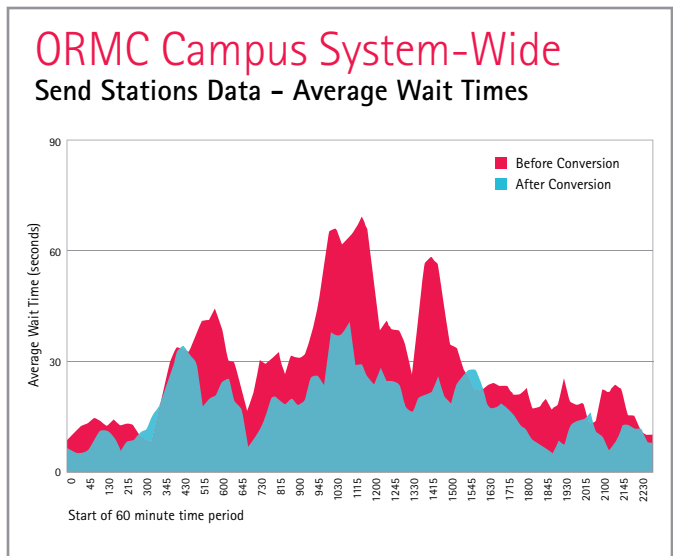
"We had the desire to maintain centralized services and a central lab, which is why we went to Xpress when Winnie Palmer came on board," said Michael W. Braden, Corporate Director of Technical Services for Orlando Regional Healthcare. "Square footage in a hospital is expensive...we do not want redundancy of hospital services."

Swisslog installed 12 additional zones with new stations in Arnold and Winnie Palmer hospitals as well as ORMC to meet the expected traffic needs of the users. The conversion also required replacement of control panels on stations, transfer units, and replacement of the Quantum software with the latest generation of control software. "The advantage of the TL software is that it gives you access to more information that is critical to maintaining the system and dealing with user problems," said Arnold Palmer Hospital technician, Don Urey. "It provides more usable information, whether it is mechanical problems or user problems." TL software provides reports and transaction data that make maintenance and system management easier, plus it provides the platform for RFID carrier tracking and Alert Messaging paging capabilities. The hospital is planning to implement RFID for carrier tracking and segregation.

Another important aspect of the conversion was the impact it could potentially have for a hospital complex that relies so heavily on the tube system. "When the system is down, it has a major impact on our operations," said Braden. When the upgrade was approved, ORMC and Swisslog worked closely to develop work schedules, plan alternate methods to transport materials through the medical complex and clearly communicate plans with all staff members. Dates and times of when stations would be down for the conversion were clearly communicated."



The Arnold Palmer Hospital Pharmacy study shows a 99% reduction in wait times.



The ORMC campus study shows a 44% reduction in wait times system-wide.

The Result

Dramatic Improvements in Efficiency

By upgrading the tube system with Swisslog's exclusive Xpress solution, ORMC can maintain effective centralized laboratory services for a sprawling medical campus while achieving high efficiency and short turnaround times. It has also saved costs and floor space in the new additions while increasing staff time efficiency. The central lab, which serves the entire downtown campus, has experienced rapid delivery and improved turnaround time since the upgrade to Swisslog. According to Cindy Kuehn, Administrative Director of ORMC Clinical Labs, the system helps the lab achieve a 15-minute turnaround goal (from the time of the patient draw, to arrival in the lab) for more than one million tests transported through the tube system each year. Pharmacy has seen major improvements in the return of empty carriers.

The Arnold Palmer Hospital Pharmacy, which includes support for Winnie Palmer Hospital, was provided with an Xpress Station to support their needs. Upon the station being brought into use, the wait time of transactions leaving the department was reduced by over 99%. The station has an average wait time of one second during their peak hours of system usage.

Since the completion of the conversion, the Orlando Regional Medical Center complex has experienced a 44 percent decrease in overall system wait times. It is estimated that the Swisslog pneumatic tube system is saving ORMC more than 120,000 hours of light manual transport each year. In the future, ORMC is planning a 1.3 million square foot addition as it serves the continuing growth of Orlando and Central Florida. The Swisslog pneumatic tube system will be a key to the efficiency of centralized services in an ever expanding medical campus.