



Specialist Hospital in Sandomierz.

Customer profile.

Specialist Hospital in Sandomierz has 500 beds located in 21 hospital wards and 43 places in outpatient wards. Every year, the hospital provides medical care to 95,000 patients, more than 19,000 of whom are hospitalized. The patients also benefit from 26 specialist clinics which are located in the hospital and provide medical services on an outpatient basis.

In 2011, the hospital was awarded funding for the project “Closer to the patient through the creation of a digital system for collecting, processing and archiving of data for the Hospital in Sandomierz”. The project was co-financed from EU funds under the Measure 2.2 “Construction of infrastructure for the information society” as well as from the hospital’s own resources.

Solution choice.

When selecting the application, the provisions that would obligate the contractors to continuously adapt the software to the requirements of the Act of 28 April 2011, regulations of the Minister of Health including that pertaining to Electronic Medical Records, as well as recommendations proposed by the National Centre for Health Information Systems (CSIOZ) were taken into consideration.

A comprehensive solution of the HIS (Hospital Information System) class was selected. AMMS (Asseco Medical Management Solution) became the

main system used in the hospital in Sandomierz. The following modules were implemented: Patients Traffic (Admissions, Hospital Wards, Medical Statistics), Clinics (Registration, Surgeries, Medical Statistics), Diagnostic Rooms, Treatment Rooms, Hospital

Infections, Blood Bank, Pathomorphology, Pharmacy, First Aid Kits, Settlements, Orders, Laboratories and Form Documentation. The AMMS system also provided the functionality known as LIS (Laboratory Information System), i.e. the Laboratory and Serology modules.

The biggest advantage of the AMMS solution is full integration of all modules and the ability to integrate this system with other software used by our hospital. There are quite a few such solutions – only within the framework of this project, the following were implemented and launched: RIS (Radiology Information System), system for archiving and storage of medical images PACS (Picture Archiving and Communication System), system of telemedicine, PIXEL Technology Archiving Referrals Scanning System (deeply integrated with the HIS via HL7 messages), as well as system for archiving traditional medical records and circulation of digital documents. The Asseco systems are delivered with documentation for integration with other systems, which is well prepared and clear. They are definitely interoperable and open to other technologies.

Robert Kurosz
IT Manager
Specialist Hospital in Sandomierz

Customer benefits achieved.

The AMMS solution ensures that the data from the entire hospital arrive automatically to the clearing system, whereas the application integration allows access to the patient data in a digital form from any place in the hospital. Uniformity of the system allows its users to obtain consistent reports from every single hospital unit. Hospital in Sandomierz began to collect the data and integrated its software solutions in order to exchange information. The hospital is on the right track to launch Electronic Health Records by August 2014.

Modernization of infrastructure.

The implementation work was preceded by a considerable improvement of the infrastructure. It resulted in the creation of a professional computer network and also in the construction of server rooms with a redundant power infrastructure, air conditioning, raised floors and a 24h monitoring system. The hospital IT infrastructure underwent a metamorphosis, growing from a single server to a total of eight servers. Moreover, the applications utilize more than a dozen of other machines. The use of virtualization tools [VMWare] enables a team of three IT technicians to provide service to 500 users, 300 units and also keep watch over medical devices, such as computed tomography or magnetic resonance scanners.

[It was a considerable challenge to reconfigure and activate directory services on the new domain. Our current experience in this area had a significant impact on the quality, speed and ease of use of various](#)

[applications. We have adhered to the hospital's policy where each user is assigned a single password, that is valid throughout the organization, and uses such password to log into most of the applications and services](#)

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The hospital wireless network was activated and modernized by adding access points that improve the network coverage and reliability. The use of Wi-Fi technology in selected hospital wards made it possible to conduct a pilot run and tests of mobile applications for doctors. During the pilot run, orders for patient examinations and drug prescriptions were enabled. It turned out that tablet PCs make it possible to check the examination results and medical history of patients who stay in a hospital ward.

A well-thought-out start.

The informatization of the hospital in Sandomierz was preceded by an internal audit – its purpose was to verify to what extent the existing IT solutions were viable for future use. Recommendations were formulated regarding future application of good practices and standards in terms of IT environment management, worked out by the hospital IT team. The conclusions of the IT audit were complemented by the analysis of user needs regarding the functionality of IT solutions used by the hospital.

It was decided that the initial phase should involve the implementation of those systems that would most effectively encourage users to make use of IT tools for their daily routines. The main goal of the subsequent stages of the project was the maximum reduction of business processes. Following these guidelines, the project began with the

implementation of the radiologic module, laboratory module, hospital orders, and also registration and treatment of patients in specialist clinics – exactly in this order.

During the initial stage, the Project Master Plan was created to describe the organization of the implementation process and determine the schedule for each of the stages. A steering committee was formed, implementation team managers had their roles determined, and project management procedures were established for communication, control, changes, monitoring and reporting of work progress, problem solving, and risk management. The implementation process began from the RIS and LIS class systems as they were necessary to enable electronic orders throughout the entire hospital. This undertaking required much determination on the part of users. The transition to thinking in terms of a process-based organization, framed by an IT system, proved to be a significant challenge. It helped that employees of individual units have long desired the implementation of systems that would facilitate their work.

Project summary.

The implementation of the AMMS system began in September 2012 and was completed in March 2013. Thanks to the strong commitment of users and precisely defined requirements of the hospital, it was possible to implement the radiology system, laboratory system, as well as the systems for clinics and diagnostic offices – all within the span of six months. The hospital switched

to a new accounting system. eWUŚ, a system used for electronic verification of eligibility of beneficiaries, played an unexpected role in the project. Because the insurance status of a patient must be verified with the healthcare provider's website every single day, diligent and ongoing work with the AMMS hospital system has become a necessity.

Key features of the AMMS system.

Ergonomic, innovative and convenient graphical interface that is loved by its users. It comes equipped with configurable user panels, making it easy to access the most often used data and functions.

Access to data through mobile devices.

Keeping records of and quantitative and financial accounting for medical services provided under contracts with the National Healthcare Fund and other commercial payers.

Full reporting to competent control and supervisory

authorities, founding entities, payers of health benefits, and also conducting analyses for the needs of the hospital's management board, including real-time analyses.

High quality and security of information flow thanks to such mechanisms as asymmetric cryptography.

Electronic medical records are supported starting from the moment of data entry, during automated document creation and electronic signing, and ending with the issuance of electronic records.