medAdvantech
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ADVANTECH MEDICAL COMPUTING ENABLES DIGITAL HEALTHCARE

With 28 years of IT experience in the embedded computer industry, Advantech has successfully led the way with its ePlatform Services and grown into a leading company in the field. In the healthcare sector, Advantech has continuously worked with international medical equipment manufacturers and system integrators, building a core competency in Advantech's Medical Computing Division to aid hospitals in creating patient-centered healthcare environments and universal digital healthcare platforms.

In recent years, the world's major hospitals have committed to improving their service quality and efficiency. Advantech has actively developed medical application platforms in support of this commitment so that hospitals might integrate their resources and enhance the overall quality of their services. Advantech offers medical-grade computers that meet the goal of providing real-time care in intensive care units and operating rooms, and it has also developed a series of mobile healthcare platforms to elevate the quality of healthcare processes and reduce medical negligence. Currently, "Advantech Digital Healthcare" has assisted many hospitals in implementing comprehensive hospital information systems that provide complete, real-time medical information. Through Advantech's help, hospital staff can make quicker and more accurate clinical decisions, as well as gain more time to treat and care for patients.

In order to facilitate the huge task hospitals face in integrating medical information systems and embedded computer technology, Advantech has created the **medAdvantech Journal**, a digital information exchange platform for the healthcare industry. Its aim is to report on the important trends in medical technology R&D and application development. The journal will showcase experts as they explore the latest in regulations and technology development, and it will make Advantech's application case stories available to you. Through this platform, Advantech would like to share and learn with our partners, advance the industrial development of medical computing, and move medical care toward a patient-centered, digital medical environment. As part of our mission to "Enable an Intelligent Planet," Advantech will promote the intelligent upgrade of technology in various industries based on our core competencies in embedded computer design and our vision of an Internet of Things (IoT) era. As we move forward, Advantech will continue to focus on the medical field and will be a key player in promoting the digital healthcare industry.

KC Liu
CEO, Advantech

Feedback questionnaire

We would like to receive your valuable feedback about our first issue of **medAdvantech** by inviting you to taking part in a brief questionnaire. Please visit: **http://www.advantech.eu/it/MedAdvantechMagazine**.

It will only take 2 minutes of your time.
Smartphone users can use the QR code (to the right):

Thank you in advance for your collaboration.
MedAdvantech Editorial committee

KNOWLEDGE HELPS HEALING

How patients benefit from data exchange between devices

Diagnoses, previous treatments, blood pressure, temperature, examination and analysis results, allergies, medications - the clinical patient report contains all significant patient data. It provides a picture of a patient's condition and assists doctors and nurses in taking the correct actions quickly. But how does the data reach the patient report?

More time for patients

"The patient is near and dear to us, we want to concentrate our time on caring for him. Every minute spent on paperwork is lost for medical attendance," explained Jörg Reis, a certified nurse at the National Institute for Heart Surgery and Interventional Cardiology (INCCI). Helping the patient to return to good health is the bright side of the healing professions. The unpopular clerical work associated especially with the paper version of the patient record is very time consuming.

The electronic patient record

It is silent in the large room, the light is bright but pleasantly warm. The large monitor glows dimly next to the bed. "The monitor provides all important information concerning the person lying here in the intensive care unit," explained Reis. Medical equipment is constantly becoming more intelligent. Compact computers are also available, which are developed and built especially for the medical environment. It was therefore an obvious step to let the computers and equipment communicate with each other — the birth of the electronic patient record. The clerical and administrative effort for all inpatient and outpatient treatments is reduced drastically by this central information base.

Good experience at INCCI

INCCI backed modern software and electronics early, and networked them systematically with each other. Electronic records were still a purely patient administration tool back in 2001. By 2009, clinical records had reached the operating theater, the wards and finally the catheter laboratory. The cardiological image archiving and communications system was added in 2010. In the meantime, all hospitals in Luxemburg and their cardiologists have access to the digital patient archive. The archive complies with the strict directives of the European data protection act. Access rights protect sensitive data, restricting delivery to authorized caregivers. "Our team has accepted the new technology very well. The terminals are now a valuable element of our everyday nursing," says Reis.

All information in the right place

The benefit for the patient is great, because data is available exactly at the point where it is needed, thanks to the electronic patient record. The information accompanies the patients from the operating theater to the ward bed. "All of our intensive care beds have a dedicated terminal, from which the patient's data can be called up. This ensures the greatest possible security for the patient," explained Reis. The computer logs the procedures of the cardiopulmonary bypass or other intensive medical equipment, just like an efficient secretary, and converts the multitude of numbers into illustrative curves. Interrelationships can then be identified at a glance.

Male nurse Ludovic Loret at INCCI intensive care

This simplifies making correct decisions. "The more information available, the better help can be given. It happens faster and is more reliable than the old paper record," explained Reis.

The technology

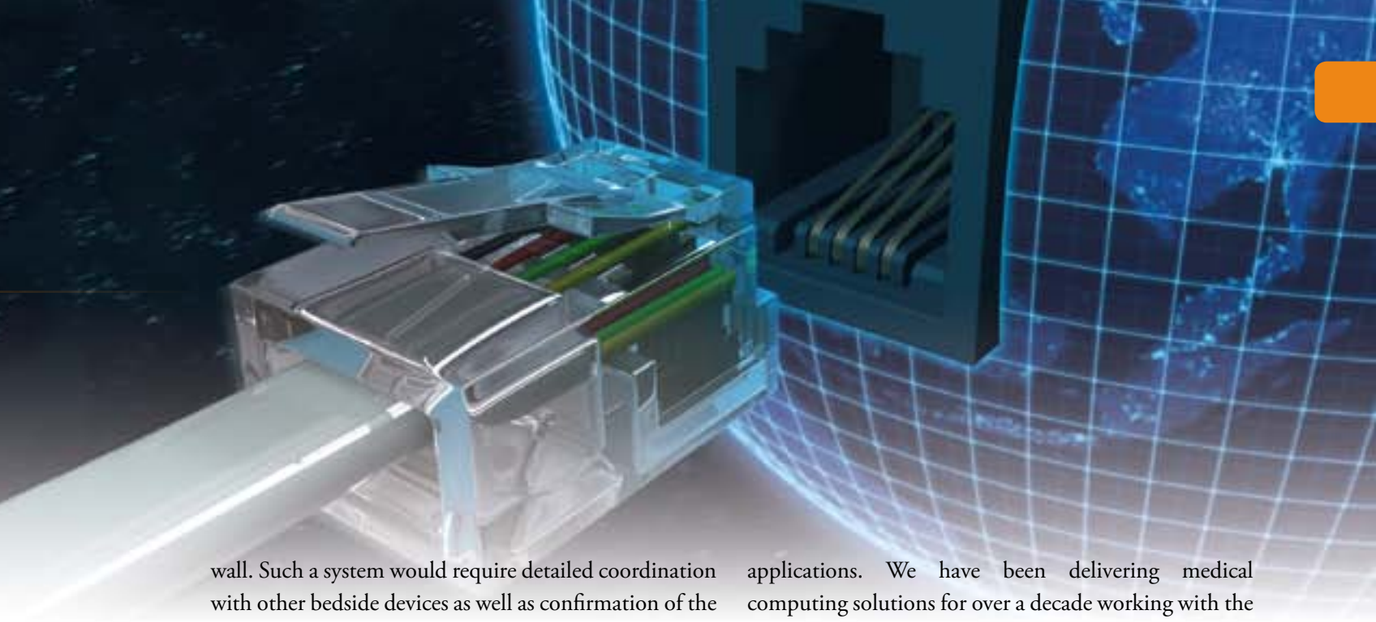
The monitors with embedded computers, so-called point-of-care terminals are built specifically for the medical environment. Their surfaces can easily be kept sterile. The devices are quiet and clean, since they function without ventilation fans. As a result, they are also used in the operating theater to assist the anesthetist. The terminals operate 24 hours per day and are replaced by the next generation after approximately four years. INCCI has just installed the new generation point-of-care terminals (POC) from Advantech. "We decided to buy the Advantech POC, because the technology, price and support are right for us. I can buy the equipment with or without touchscreen, with professional support at my side, offered by Advantech's integration partner Megabyte Systemhaus, who I can rely on to give me good support," commented Reis. ■

Jörg Reis is a certified male nurse and IT specialist for application development. He works for INCCI, the National Institute for Heart Surgery and Interventional Cardiology in Luxemburg, and ensures that technology and software related to the electronic patient record functions smoothly.

National Institute for Heart Surgery and Interventional Cardiology INCCI

Three surgeons, eleven cardiologists, four anesthesia specialists, and intensive care work go on at INCCI. A total of 90 people provide 24-hour full medical care. The heart surgery department has two operating theaters, four intensive care beds, four middle care beds and seven beds for normal medical care. Two theaters are available in the interventional cardiology department for heart catheter examinations. Since its opening in June 2001, the department for anesthesia and intensive care has treated more than 500 heart patients.

THE EMERGENCE OF PATIENT INFOTAINMENT



Timely communication, good information and plenty of rest, are keys to reducing patient anxiety and building an environment where medicine and treatment plans can effectively run their course. Technology can assist medical staff helping them deliver the best care possible; it can also provide information and entertainment to patients, helping them feel more comfortable. Patient Infotainment terminals are increasingly popular in hospitals, where they serve the needs of both staff and patient, right from the bedside.

Trends in patient education and entertainment systems

Today's hospitals and clinics are undergoing a transformation. Doctors and nurses still make the rounds, but thanks to modern technology, they have access to real-time data virtually anywhere and at any time. Communication between doctor and patient is improving by using bedside terminals to augment diagnosis and treatment discussions. Connected to hospital information systems (HIS), they can serve up x-rays, high resolution images, medical history, and other information that can assist doctors in patient consultation and treatment. Internet connectivity allows the hospital to consult with family members who may be remotely located, using Voice over IP technologies. Communication is efficient and focused.

Patients can also make use of services from infotainment terminals. Surfing the web, listening to music or video on demand, calling friends and family via Skype—these are all possibilities. But the patient can also access medical information provided by the hospital, send alerts to nurses and staff, transact banking, even do work from the hospital depending on their medical condition. These trends are keeping patients happier, giving them pertinent information regarding their health, and easing anxiety by allowing them to feel more in control.

Hospitals may monetize some offerings to create revenue streams that can be re-invested in medical care. People are accustomed to pay-for-use services. This could easily be applied to media on demand, internet access and the like. Advertisement revenue is another possibility. A maternity ward could allow key suppliers of newborn products to advertise on infotainment displays in post-delivery care, even providing shopping links via the web.

New versus existing facility

A new facility can pre-cable for its computer technology, adding network and power drops to patient rooms and building a wireless infrastructure with adequate coverage. Infotainment terminals can be planned in the room design, and cables to terminals can be hidden in trays in the retractable arms.

The design must be flexible so that regular technology modifications during install are quick and simple to make. This includes cable and termination types, location of end devices or changes to system features.

An existing facility can replace TV sets, and choose lightweight terminals that are easily placed on table tops or mounted on walls in patient rooms. System selection might be affected by available space and infrastructure. For example, screen size could be limited by space constraints or weight restrictions on mounting hardware. Some solutions might include mounting the screen on a swivel arm at the bedside, table or on the wall. Such a system would require detailed coordination with other bedside devices as well as confirmation of the availability of power and data outlet locations on the patient room headwall.

Many patient education and entertainment access systems are moving toward IP-based solutions requiring UTP. It is therefore is necessary to review existing coaxial systems to consider upgrading them as needed.

Infotainment terminals at bedside

The St. Olav and New Ahus hospitals in Norway have completed their goal of placing "a terminal next to every bed." The patient infotainment solution delivers TV and radio on demand, as well as providing a nurse call application.

At Ireland's National Maternity Hospital, seven maternity and postnatal care rooms have installed patient infotainment terminals to help new moms and dads educate themselves in how to take care of newborn babies. New moms can watch videos to learn about things such as bathing their babies, breastfeeding, tips for easing postnatal discomfort, and the correct way to use car seats.

The private-sector Hong Kong Sanatorium & Hospital uses Advantech terminals as a differentiator and to fulfill its motto of "Quality in Service, Excellence in Care." The devices enhance medical treatment, minimize errors, and positively identify medical staff and their patients.

Advantech is proud to have contributed to these applications. We have been delivering medical computing solutions for over a decade working with the top ten solution providers in the medical computing indus-try. Quality, industrial design, longevity support and complete customization services are offered by the AdvantechCare service team. The patient infotainment products from Advantech have touchscreens, remote control, RFID, Smart cards and digital TV tuners. The anti-bacterial enclosures are easy to clean and disinfect. Mounting solutions are flexible and the devices are silent in operation with low heat dissipation. Last but not least, the infotainment terminals are cost-effective, durable and have UL60601-1/EN60601-1 and IPX1/IP65/NEMA4 certifications. They run both Windows® and Android™ operating systems in a dual configuration, making it possible to extend mobile device applications to service-oriented interactive terminals. In the future, there will be even more convergence with seamless applications among different intelligent platforms, allowing people to access information wherever they may be.

Further integration

Patient infotainment terminal solutions don't stop at the bedside. They can be integrated with other systems in the hospital to create intelligent solutions throughout the facility, such as scheduling systems, signage information displays, and connected ancillary businesses (beauty salon, pharmacy, convenience store, food services). They can even use network technologies to extend the reach of a doctor to remote locations providing tele-health care and personal healthcare management choices. ■

COMPUTERS IN THE HOSPITAL

People and computers as a team for ultimate care

What do people expect from a hospital when they become ill? Certainly a wish for tender care, understanding staff, competent medical support, safe medication and the greatest degree of hygiene. Overall, they expect the highest quality possible. Nurses and doctors provide tender care. Specialists contribute their competence and experience. Decisions are based on knowledge. Computers assist the team by making pertinent data readily accessible to ensure medical staff makes the most informed decisions possible.

Do medical PCs facilitate the work of nursing staff

This question is difficult to answer as measurable criteria and reference data is generally not available. Before and after statistics are not normally recorded. The one thing that is certain is that use of point-of-care terminals has changed hospital work. A large amount of paper work has been eliminated, and with it errors have been reduced. At the same time, other work has taken its place, brought on by the implementation of computer technology.

How does the patient benefit from the use of point-of-care terminals

Safety of medical care is increased by the use of POC terminals. Careless mistakes during the entry of medical records are avoided by the direct interchange of data between the measuring device and the PC.

Prompt access to all patient records allows personnel to perform a focused assessment of current medical state. Life-support measures can be initiated earlier. Validation of patient data also ensures safety: Is there a match between the patient in the bed and the the one on file, and is the data entered plausible? The medical expertise of a doctor cannot be replaced by a system, but the system can be used to augment professional competence by providing rapid access to reliable data.

What are the advantages for the hospital

The quality of medical work has become more transparent, and quality improvement measures have become possible only by processing patient data electronically. Comprehensive quality checks, for example, for organ donations or medication administration are simplified by electronic data acquisition. Statis-tical analysis assists in the procedural improvements. Duration of confinement to bed, state of the patient when released, and mortality rates are quality attributes that flow into comparisons of clinics. Medical verifications to health insurance funds or during court proceedings can be provided faster and more easily. All in all, electronic patient data processing can save costs. The savings potential contributes to cost-efficient clinic management.

What are the risks and side-effects

The introduction of medical IT systems has progressed in different ways, from one clinic to another. Universal standards do not exist and patchwork and isolated applications can lead to expensive dead ends. Implementation can be difficult if there is resistance or lack of experience from IT. At the same time, since every IT system is continually evolving, there is an ongoing need for maintenance and care. Normalization, standardization and uniform quality specifications are still in their infancy.

Are there any limits

No system in the world will replace medical competence. But IT can advance medical treatment and promote innovative ideas. In this way, technology promotes the recovery of patients, helps physicians and nursing staff in their work, and offers transparency for insurance companies and hospital operators. ■

Interview conducted by Frauke Frerichs-Waldmann, Diplom-Ingenieur, makomti

Dr. Lukas Streit holds a doctorate degree as an intensive care physician. He works in the intensive care unit at the Inselspital in Bern. Besides his work as intensive care physician, he is an active member of the research team and manages the IT department for the intensive care unit. Medicine and informatics are equally near and dear to him.

Inselspital University Hospital Bern

The Inselspital is one of the most eminent university hospitals in Switzerland; it is a figurehead for the Canton Bern. It is a medical competence, high-tech knowledge center with an international reputation. The staff master the variety of tasks in medicine, education and research with creativeness, inventive

talent, commitment and perseverance. The patients are always the center of attention. Humane and technically outstanding medical and nursing care of patients is the ultimate ambition of the roughly 7,000 staff members, who care for more than 220,000 patients each year.

COMPUTING EVERYWHERE AT POINT-OF-CARE IN HOSPITALS

Computing technologies are helping to remove boundaries, increase efficiencies and improve the quality of care for all patients

The digital healthcare system – Providing users with the information they need right at the point-of-care.

Hospitals have changed dramatically over the last several decades. They have been transformed into sophisticated medical facilities. Today computer-based medical equipment is becoming pervasive, and a myriad of medical equipment such as diagnostic gear, analytical & laboratory equipment, drug dispensing carts, computerized physiotherapy, patient infotainment terminals, multi-parameter patient monitoring, and endoscopy are all leveraging PC-based architectures.

This new medical landscape is evolving and the drive towards a connected smart hospital vision (Figure 1) steadily gains momentum with everything from patient administration, monitoring and care, imaging and analysis, and records and health maintenance utilizing Intel architecture based platforms.

Platforms based on Intel architecture provide the performance and high efficiencies needed to make medical devices more intelligent, more portable and more connected, making it easier for patients to receive treatment and more effective for doctors, nurses and administrators to provide and manage care. Intel®, architecture is at the heart of many of these systems and as a consequence is helping to enable the connected smart hospital vision.

Healthcare providers are relying more and more on computers to access medical data such as electronic patient records. A good example of this is where healthcare practitioners are utilizing mobile point-of-care (MPoC) solutions to improve nurse/doctor workflows throughout the hospital. By permitting nurses and doctors to access clinical information systems at the patient bedside in real-time, MPoC solutions can facilitate better nurse/doctor workflows. This in turn has positive impact on patient care and potentially can reduce the length of hospital stays. Medical Clinical Assistants (MCA) and other tablet devices are also being added to the healthcare practitioner toolbox, leading to the widespread computerization of the hospital and helping to improve patient treatment.

Medical PCs which are today being deployed and widely used throughout the hospital from intensive care units and radiology departments to operating rooms are another good example of a smart hospital environment. They are used in a diverse range of medical applications from data acquisition, vital signs monitoring devices, Patient Data Management Systems (PDMS) and visualization (x-ray, endoscopy). Medical PCs play a critical role in the provision of care by helping to display, collect and disperse images, and other patient data.

These systems are usually mounted on walls or ceiling, or on equipment carriers or medication drug dispensing carts, and they are ideal in helping to bring EMR, PACS and CPOE to the point-of-care. There are special regulations governing safety and emissions for medical computing systems deployed in a hospital or clinic. Therefore medical platforms must conform to prevailing medical technology standards such as UL60601-1 and EN60601-1 in order to ensure safety and reliability. These systems also typically will have a touchscreen interface and tend to be fully sealed in order to ensure that they meet IP65/NEMA 4, and IPX1 specifications for dust-resistance and water spills.

Medical computing systems are deployed in sterile areas making it essential that a germ-free environment be maintained. Therefore, all computing platforms must be capable of undergoing repeated cleaning with isopropyl alcohol and other germ-killing agents. Medical computing systems need to be robust and reliable and typically have passive cooling systems in order to remove vents and fans.

For successful integration into a hospital, Medical PCs must be able to connect to legacy interfaces (like galvanic-isolated RS-232) which allow connectivity to more than one medical device. They also need to support options like Wireless LAN, 10/100/1000BaseT Ethernet, USB 2.0 and PCI-Card.

Figure 1: Connected Smart Hospital Vision

Embedded platforms based on Intel processors provide a scalable computer architecture that meets the power, performance and graphics requirements of the medical market. Intel's Embedded and Communication Group provides an embedded roadmap which ensures the long-term availability of Intel-based platforms for a period of 7 years, which is of fundamental importance for the medical market segment. The total computing power required to run many medical applications today has increased many times over and the latest processors based on second generation Intel Core microarchitecture offer enhanced graphics capabilities and performance (while reducing overall platform power requirements) needed to meet or exceed the requirements for most medical applications. ■

MODERN AS TRADITION

Ground-breaking technologies

The Bern townswoman Anna Seiler had a hospital built on November 29th, 1354, to offer free treatment and care with 13 beds. She wished at that time, that this hospital would exist "for evermore." Those 13 beds have now become 1,100. More than 650 years ago, there were three full-time nurses; in 2011, roughly 7,000 staff members care for more than 220,000 patients annually. Today, the Inselspital in Bern is a high-tech, medical competence and knowledge center with an international reputation. The patient is still the focal point, but computers are moving into all areas of day-to-day clinical work.

Demands on hospitals increase continuously. Where do you see the greatest challenges for your area?

The administrative burdens on doctors and nursing staff increase continuously. A chief physician once described his situation as follows: His time is spread 50% to his role as manager and 50% to his administrative activities, leaving 0% for his medical tasks. We wish to regain more time for the patients but still be able to fulfill the increased quality management and verification obligations.

How can computers help in hospitals?

Point-of-care terminals (POC) can be found in day-to-day nursing. We monitor vital data of the intensive care patients at the bedside.

POC terminals record physiologically critical data. We document services rendered, prescriptions and administered medications. These records also provide the data for treatment invoicing, quality assurance and benchmarking.

Where do you see further application areas in the intensive care unit?

We have equipped 50 beds with Advantech's POC terminals in a first project. The positive experience motivates us to also introduce these terminals in the Anesthesia department. We are currently equipping our transport beds with Advantech battery operated POCs. We often travel long distances within our clinic compound when we transport our patients to other clinic buildings for special examinations. It takes two or more hours before the patient is returned to the intensive care unit. The vital data continues to be monitored with the mobile POC at the transport beds providing continuous recording. This ensures greater security for the patients.

What are the trends that you see?

Mobility is increasing. Quality demands are rising. Changing billing models require more accurate documentation of the services rendered. Analysis systems such as benchmarking give transparency, but also need to be supplied with relevant data. Specialists, specialist hospitals and finances are limited resources, which do not keep up with needs. Costs must be reduced, or at least kept constant.

What do you hope to see for information technology?

The driving factors for the next hardware generation will be size, mobility and compatibility. This means, equipment must be smaller, have a long service life, work reliably and be connectable to standardized accessories. The PC must fit in the staff member's pocket. And it must, of course, possess a powerful but affordable rechargeable battery. It would be excellent if accessories such as bar-code scanners or label printers were already integrated. Devices should function reliably and have an appropriately long service life suited for use in a medical environment. I also would like to see a "medical cockpitfor" the software, in which access to all data was intuitive. At present, one must still know which software package delivers which information.

Where does the future lie in your opinion?

It is conceivable that expert systems will assist with initial diagnosis. Computer-controlled check-lists will alleviate stress in the casualty department. Telemedicine will permit global access to specialists, who will be able to assist during operations using computerized support systems. Virtual patients could contribute to safe treatment, as has been already used successfully in the pathology area. When in doubt, the computer has the steadier hand and doesn't slip with the scalpel. The processes and procedures in the hospital differ according to the medical specialization which make a clear case for a medical cockpit, that is, one software package that can be configured individually for each clinic.

University clinic for intensive care medicine at the Inselspital Bern (KIM)

Adult patients at the Inselspital who need intensive medical care after an accident or surgical operation are treated here. Specialists work around the clock to care for patients whose cardiovascular system, breathing or brain require special attention. An important milestone was reached in 2010 with the KommuniKIM project. The project had the goal to improve and optimize the inter-disciplinary communication of all patient-relevant information. ■

ALPHATRON AND ADVANTECH TEAM UP TO DEVELOP INNOVATIVE CARESTATION

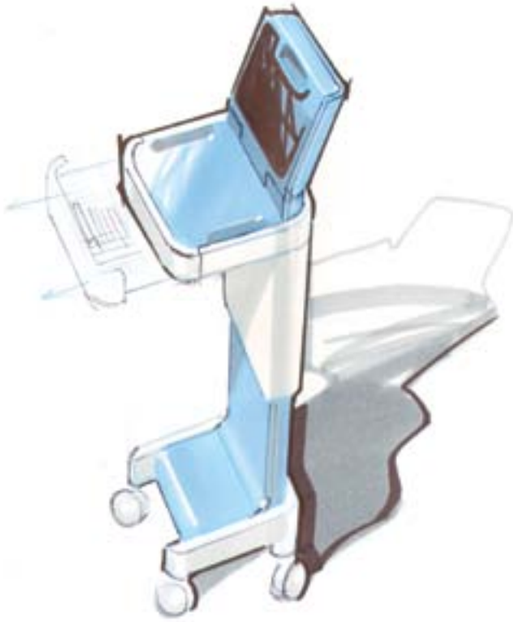
AMiS – Advanced Mobile intelligent CareStation will be launched at Medica – Düsseldorf from the 16th – 19th of November 2011

Introduction

The idea was born from working closely with caregivers for many years and listening to their needs. "We worked with nurses and doctors for many years and we could see their frustration with mobile computers because most of the products available in the market were not designed specifically for them," says Harald Verloop, Director of Alphatron Medical Innovations. To resolve this problem Alphatron entered into a joint venture with Advantech to develop a nurse's cart. Both organizations have worked with caregivers, hospitals and organizations around the world and understand that in medical situations quick and adequate solutions are vital. Professionals increasingly experience stress because of workload and shortage of personnel, so they need solutions that make their work more effective.

A2 cooperation

The project was given the name A2 (Alphatron and Advantech); the design ideas were developed by Alphatron with the cooperation of Promea, a Dutch industrial design company, and the University of Twente. The aim of the project team was to develop an innovative solution with an integrated design which included IT technology, hygienic aspects, ergonomics and safety, without compromising the needs of the caregivers. To achieve the objective it was very important to get closer to the caregivers and listen to their needs. The A2 team invited some reference hospitals to participate in the development of the product, and feedback was given by nurses, doctors, pharmacists and IT staff. The feedback provided by the caregivers was extremely important in developing a product specifically suited to them. The caregivers expressed that they needed a reliable, high quality product that they could trust without hesitation. Developers needed to understand the work of medical providers thoroughly in order to provide the right



solutions and be able to support them technically. The final engineering and tooling, developed by Alphatron and Advantech at Advantech headquarters in Taipei, Taiwan, has led to an effective and intuitive product that delivers results.

Branding AMiS

"The idea was to develop innovative technologies in a mobile computer to better address the needs of healthcare providers and their patients. We designed the product around the daily routine of nurses, doctors

and other healthcare professionals so we decided to brand it as AMiS. AMiS is like a friend that stands by the caregiver no matter what," says Harald. AMiS – Advanced Mobile intelligent CareStation is an integrated mobile computer work cart that has been developed to optimize the patient care process. It also provides wireless access to patient information. AMiS is unique because it is modular, it can be customized to user needs and it works intuitively. ■

ADVANTECH / MEDTEL BRINGS NEW MEDICAL TECHNOLOGY TO QUEENSLAND HEALTH

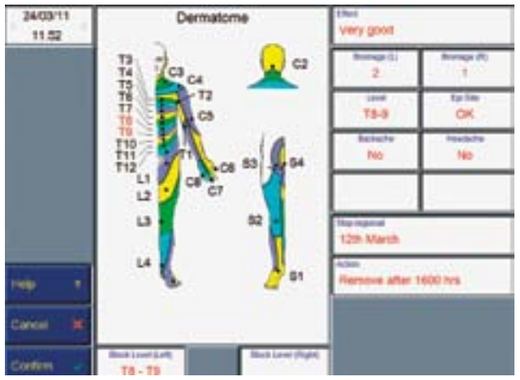
Winchart is a clinical software solution for perioperative medicine. The solution is developed and distributed by Medtel Australia, a subsidiary company of Getz Bros Ltd. Winchart creator, Peter Toth first began developing the system in the mid-1990s and is now the production manager for Medtel's clinical software division. "In the mid '90s I was working in the anesthesia department at the (then) Adelaide Children's Hospital, sharing an office with Dr David Sainsbury, who (apart from anesthetizing) was collecting data from the patient monitoring devices in theater and storing that data on mobile computer carts," Toth says. "We had the idea of creating a software tool to arrange this data graphically and allow anesthetists to enter drugs, fluids and notes etc, and so the first Winchart anesthesia record was born."

In 2008 Queensland Health gave the go-ahead for the roll out of Medtel's Winchart clinical information system, making it one of the largest integrated hospital health ICT projects in the country. Queensland Health will use the system in all phases of perioperative medicine. When complete, over 500 units, running on Advantech's POC-S157 point-of-care terminals, will be deployed throughout the state's thirty-two public hospitals.

The partnership between Advantech and Medtel is nothing new to the Australian health care market. In fact, this latest joint deployment represents the fourth generation of specialized medical equipment implemented by the duo in a steadfast partnership of over eight years. A long lasting partnership, coupled with an operational history of reliable, medically-certified hardware, and running software specially developed by medical professionals, is arguably the most important success factor in the project.

The Winchart modules are :

- Bookings
- PreOp Clinic
- IntraOp
- PACU
- SICU (Surgical Intensive Care)
- Acute Pain Service (APS)
- Clinical Analysis and Reporting (CARM)
- Timeline
- Winchart Interface Engine



Winchart is designed to capture clinical information from patient monitoring equipment and peripheral medical devices. It is also comprised of a customizable database allowing for clinicians to enter data with ease. The product has multiple interfaces to external systems and applications. Winchart produces a series of electronic patient records in the acute care environment. These records can be printed at the point-of-care and stored in patient notes as well as being archived to a timeline repository. The records are stored in a centralized database allowing for easy extraction (via the CARM module) of clinical reports for audit, research and hospital management. Its ease of use saves time in administration which is ultimately given back to patients in quality care.

Advantech's POC-S157 point-of-care terminal is well-suited to the needs of the Queensland medical computing environment. The hospital demands for a device that is slim, easy to maintain, cleanable with antiseptics, and certified for a medical environment, are easily met by POC-S157, with its UL60601-1/EN60601-1 certifications for electrically isolated equipment, an IPX1 water resistant enclosure and IP65 dust-tight front panel, and a large 15" color TFT LCD panel which is equipped with an intuitive touchscreen. The POC-S157 is a highly-integrated, multimedia, Intel® Core™2 Duo processor-based mobile computer with a single DVI-port, dual onboard 10/100/1000 PCI-E Ethernet controllers, a COM port, quad USB 2.0 ports, a 24-bit stereo audio controller, and built-in 2.5" hard drive, that is compact and silent in operation.

This is a fourth generation Advantech / Medtel solution, and Queensland Health's go ahead is a tribute to the success of a strong partnership and confidence in the system's reliability. Some reports estimate savings of as much as 90% in staff time over previous, paper-based systems.

Winchart improves patient care, aids efficiency, provides consistency and legibility in reports; acts as a data analysis tool for research and budgeting; and improves overall risk management by providing data for analysis, decision making and education to the clinician's right at bedside. ■

NEWS FLASH

Advantech at Medica 2011

MEDICA®

The Advantech Digital Healthcare team invites you to meet us at MEDICA-2011, which will be held from November 16th – 19th, 2011, in the Messe Düsseldorf, Germany. Hall 15, Booth B43

PRODUCT NEWS

22" Wide Screen Fanless Point-of-Care Terminal

The POC-227 Point-of-Care terminal is a fanless system running an Intel® Core™2 Duo processor with an Intel® GS45 Express chipset, a 22" WSXGA TFT LCD display, and capable of high speed computing power. It can be connected with dual-gigabit connectors and configured for LAN teaming, or it can use the optional 802.11b/g/n wireless adapter with up to 300 Mbps of throughput. POC-227G features a rich selection of USB and isolated COM-port connectors, and user-friendly function keys.

HIT-W181: Slim 18.5" Fanless Healthcare Infotainment Terminal

HIT-W181 is an extremely lightweight and slimly-designed, 18.5" multi-function infotainment terminal. It comes with touchscreen, WiFi, RFID, a handset, smart card reader and a two megapixel camera. HIT-W181 can provide patients with various entertainment programs such as TV, movies or computer games. Patients can easily communicate with families via the internet. Identification recognition for both hospital staff and patients is possible with the RFID and smart card reader.

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