27) Summary Asian radiologist seminar

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Ⅰ. Summary

Wuestec provides a complete digital x-ray solution that brings immediate cost savings and productivity improvement. Focusing on medical and industrial digital x-ray imaging markets, Wuestec shares with customers tangible cost savings created by its unique technologies and services.

Wuestec focuses on eliminating all barriers that make customers hesitate to accept the new digital imaging technology. The company provides a complete solution without substantial requirement of knowledge, capital and operational expense or transitional effort to customers.

Ⅱ. Market

X-ray as the primary imaging technology was $11.5 billion market in year 2000, worldwide. As the market evolves from film-based analog to digital imaging, demands for additional software, hardware and network grows rapidly. The market size of digital imaging in US healthcare will grow to $7 billion in 2004 from $2 billion in 2000.

Trend : The healthcare industry began to adapt digital imaging technology to improve service quality and operational efficiency. However, since the initial capital investment to digital technology is large, many medium and small hospitals and clinics cannot afford the potential benefits of the new technology. With current prices of competitors' digital imaging equipment, hospitals' operational costs will become higher instead of lower than its current position. The other fact that hospitals should acquire new knowledge and capabilities to run the digital technology(i.e.; information technology) has been the barrier to paperless hospitals. Thus, the medical industry has been waiting for a better digital solution.

Image acquisition : X-ray image can be acquired within 15 seconds compared to 15 minutes with conventional x-ray processes, without film and chemicals.

Analysis : With assistance from computers and software, digital x-ray images can show much more detailed information to radiologists than conventional film images.

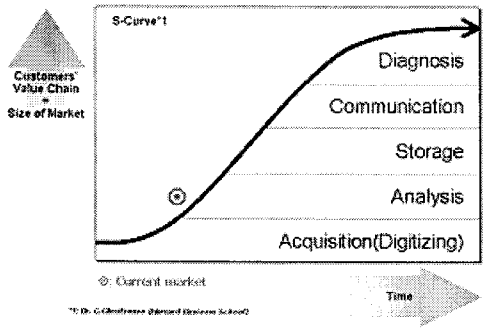


그림 1. Benefits of the digital imaging

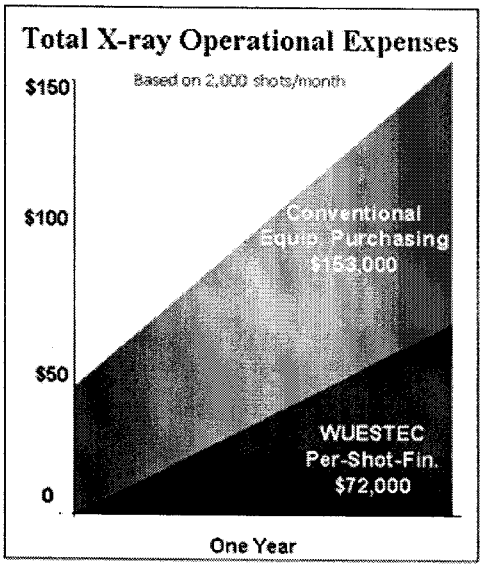
Storage :In-house computer or network storage can efficiently store and manage unlimited number of images without physical space.

Communication : The images can be shared and communicated across the computer network including the Internet without any time delay.

Diagnosis : By communication, hospitals can get better diagnoses from outside specialists. It enables hospitals to provide better quality services to patients at lower costs.

Ⅲ. Products and Services

Wuestec' s digital x-ray product has simply the best image quality in the industry. With more than 6 patents pending, the unique technology was developed, based on proven CCD technology that has much longer lifetime expectancy than other technologies. A new initiative to develop a digital x-ray product that competes with conventional film x-ray systems was successfully accomplished in November 2000. Wuestec' s current cost position is about 1/3 of its competitors. None of competitors have a plan to copy this strategy since it is impossible given their technology, cost structures and design concepts. With the new technology and production arrangements, Wuestec introduced a marketing program to charge customers $3 per x-ray taken without charging any initial payment. That means customers do not need to buy digital x-rays with their own money but can enjoy the benefit of digital x-rays with lower operating costs than existing film machines. Film-based systems average $4.5 per x-ray. Wuestec can now deliver immediate direct cost saving to any hospital in the world. As expected, there was surprising reaction from the market. In addition to the pricing, Wuestec' s digital x-ray product has the built-in capability of remote diagnosis and service. It is a very strong sales point since customers need not worry about maintenance of the new digital x-ray machine.



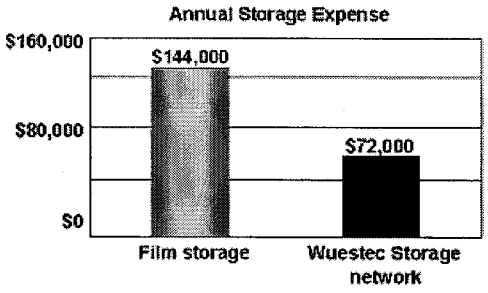


그림 2. Acquisition of digital image (Digitizing) 그림 3. Annual Storage Expense

Analysis : Wuestec acquired software (PACS (Picture Archiving and Communications Systems)) to help customers make better diagnoses with digital images. This is an essential tool to being a film-less hospital, the future model of hospital operation. Many larger hospitals have already adapted or committed to being film-less without hope of over all cost reductions in the long run. Wuestec' s software is bundled with the digital x-ray product to enable customers to accomplish the same goal without serious additional investment in PACS. Wuestec PACS has the ability to handle other imaging modalities such as CT and MRI. This approach is the best solution for Wuestec' s target customers - medium and small size hospitals.

Storage : For 240,000 images

Wuestec introduced the Internet Storage Service of digital medical images in mid February. Now, customers can store their patient data and images in Wuestec' s Internet Storage Service without using their own storage room, which is very expensive and difficult to operate. Once stored in Wuestec' s storage, the image can be retrieved when a customer wants, without delay or limitation of location. In the US, around 1 billion x-ray images were made in 2000. Those patient images must be stored for the next 5 to 10 years under the government regulations. With film storage rooms, customers are now averaging $0.60 of direct cost per image. Wuestec offers the same service with more conveniences at about $0.30 per image.

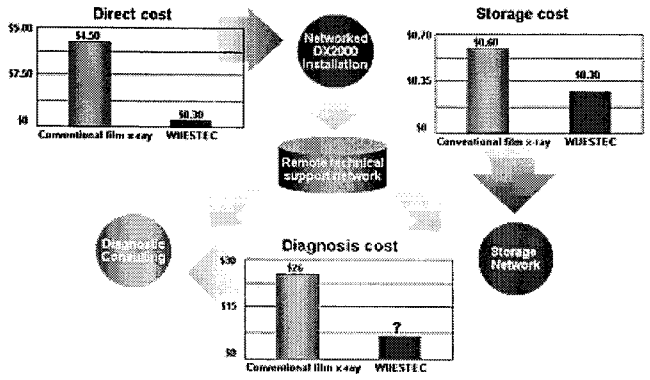
Digital conversion (Digitizing) : However, to get the full benefit of a networked Internet Storage Service, a customer must generate and distribute digital patient images without using film; this is

rarely the case. A typical hospital in the US has more than 1 million films in storage already.

Without converting these existing films to digital image data, a company cannot deliver the complete benefits of film-less hospital operations. As a matter of fact, those existing films are an entry barrier for digital equipment and software providers. In the middle of March 2001, Wuestec introduced its Digital Film Scanning Service to solve the problem. Wuestec acquired and installed the digital film scanning production line in its Mobile, Alabama plant. The line has the capacity to convert 1 million x-ray and other modality films into digital data in each month. Customers may send their film archives to the company, and the company delivers converted digital data in industry standard DICOM 3.0 format. At the same time, Wuestec provides Internet Storage Services for converted patient data with an incentive-pricing plan.

The digital film scanning business is an exceptionally important initiative to Wuestec since the service will bring a lot of business to its Internet Storage Service. This service makes the company very unique since Wuestec is the only company who can provide the service in the U.S. The state-of-art digital scanners at Wuestec have capacity to convert a medical film to digital data in 6 seconds. Communication : When a hospital adapts digital technology to its core operations, network speed becomes a serious bottleneck. Since one patient' s data can easily reach to 100MB, the speed to retrieve the images on a physician' s computer screen may be very slow. Moreover, if many doctors in the same hospital want to see their patient data at the same time, the network speed becomes unacceptably slow. The only solution, so far, has been to change existing the LAN to fiber optics. However, this approach is very expensive and exceptionally time consuming. Multi-million dollar investments and year-long installations are common for optical fiber projects.

Wuestec introduced its Streaming Service in March. As shown on its web site, the technology lets doctors see their patient data and images on computers without time delays. The real time imaging service is a tool to deliver patient data and images to customers from Wuestec' s Internet Storage without any time delay. To enable more customers to experience the exciting technology, Wuestec deci ded to provide the software without charge to every customer who purchases its digital x-ray product.



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Demo software of the Real Time Imaging is now available on the web site. With the solution, radiologist can access image and perform diagnosis from wherever Internet connection is available. For small and medium size hospitals and clinics, the Wuestec Streaming can be the best PACS solution.

As another solution, the MFT (Metallic Fiber Transceiver) technology Wuestec applied can increase LAN speeds from 100MBPS to 200MBPS without physical modification to an existing network infrastructure. The technology also increases the distance of LAN environments from the current industrial limit of 1,000 feet to 2,000 feet. In other words, customers can double the speed and the reach of existing LAN networks. With increased bandwidth by the technology, Wuestec has a complete product line for video & data communication. Wuestec Video & Data Communication products enable full-motion, full-size, full-color, uncompressed video of remote observations, consultation of charts, x-rays, complex test results, and in-progress operations. It has the capability to deliver real-time (30 fps), bi-directional, uncompressed, broadcast-quality video in NTSC and PAL, MPEG I or II or HDTV I or II formats among unlimited multi users at the same time under existing LAN and/or WAN infrastructure.