

Teleradiology Project for Latvia

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“It’s an amazing invention, but who would ever want to use one?”

-Rutherford Hayes (in 1882), upon using the telephone for the first time.

American College of Radiology (ACR) has developed standards and recommendations for digital radiography

"Teleradiology is not appropriate if the available teleradiology system does not provide images of sufficient quality to perform the indicated task. When a teleradiology system is used to produce the official interpretation there should not be a clinically significant loss of spatial or contrast resolution from image acquisition through transmission to final image display."

PACS benefits:

- **Immediate availability of duplicate original images** - The system can immediately produce an exact duplicate of the image without loss of image definition that results with film.
- **Ability to adjust image contrast and other parameters** - Image contrast can be adjusted essentially eliminating the problems of images being "too light" or "too dark." In addition, images can be magnified, rotated and flipped, measurements can be made and the images can be annotated as needed.
- **Increased quality of patient care** - The system automatically enters patient demographic and exam specific data on every image, and allows instant access to specific images. The computerized records will be securely archived on a hospital server. Upon request, the patients' images can be copied to a CD to give to their PCP.

- **Improved communication** - "One significant advantage is the PACS allows radiologists to type in short reports that are stored digitally and will stay with the images," said Robert Posteraro, M.D, radiologist on staff at Covenant. "This will certainly improve communication between physicians, which can lead to better care for our patients."
- **Complete image management** - Radiology staff will no longer be concerned with tracking down files and travelling to multiple storage areas to retrieve old films. Images will be accessible at all times and instantaneously retrievable



Goals of Riga Municipal Agency “Telemedicine Centre”

- o development and coordination of telemedicine development projects in the City of Riga
- o development of a single telemedicine network in Riga
- o organisation of practical telemedicine consultations
- o attraction of the EU financing and other international finances to the City of Riga

The Main Directions of the Development of Telemedicine in the City of Riga

- o teleradiology
- o telecardiology
- o patient consulting
- o telemedicine system in emergency assistance
- o telemedicine anti-terror systems
- o home telemedicine
- o teletraining

Teleradiology Project of Riga city

Goal

To develop the radiological information system RIS, the medical image archivation and communication system PACS and a videoconference system for Riga City medical institutions that would ensure linking of the medical institutions through the Internet and ISDN lines with Latvian hospitals and competence centres of foreign radiologists.

The Current Situation in Latvia

- o decreasing number of qualified medical experts
- o necessity of involving qualified external medical experts in treatment process
- o lack of information exchange between Riga's hospitals
- o the hospitals are partly ready for operation with digital format (only part of apparatuses has DICOM output option)

Teleradiology Project Benefits

- o significantly reduced patient consultation time
- o substantially shorter time of setting diagnosis
- o earlier started therapy of the patient
- o reduced period of time spent by the patient in a hospital
- o improved general health condition of residents of Riga

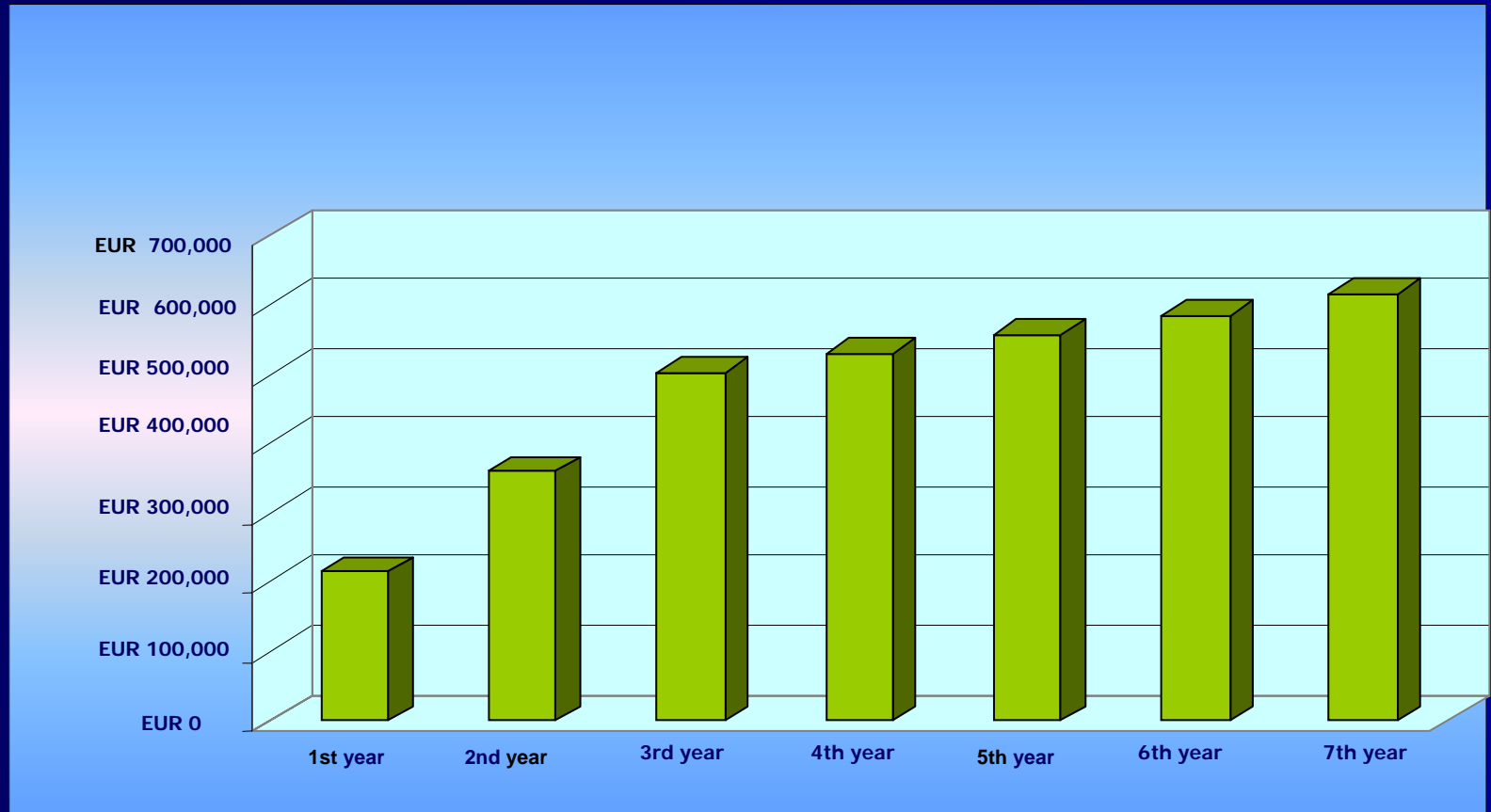
Tasks of Telemedicine Centre

- o financing teleradiology project by using the grant
- o attracting additional investments
- o renting the teleradiology system to the various hospitals
- o central data storage and technical support service

Advantages of the Renting as the Method of Project Implementation

- o to implement the project in the maximum number of medical institutions
- o to implement the project under the supervision of the involved municipal department
- o to eliminate the activities related to technical maintenance and service for the hospital
- o facilitate the establishment of Telemedicine Centre, that will provide common data storage and technical support services

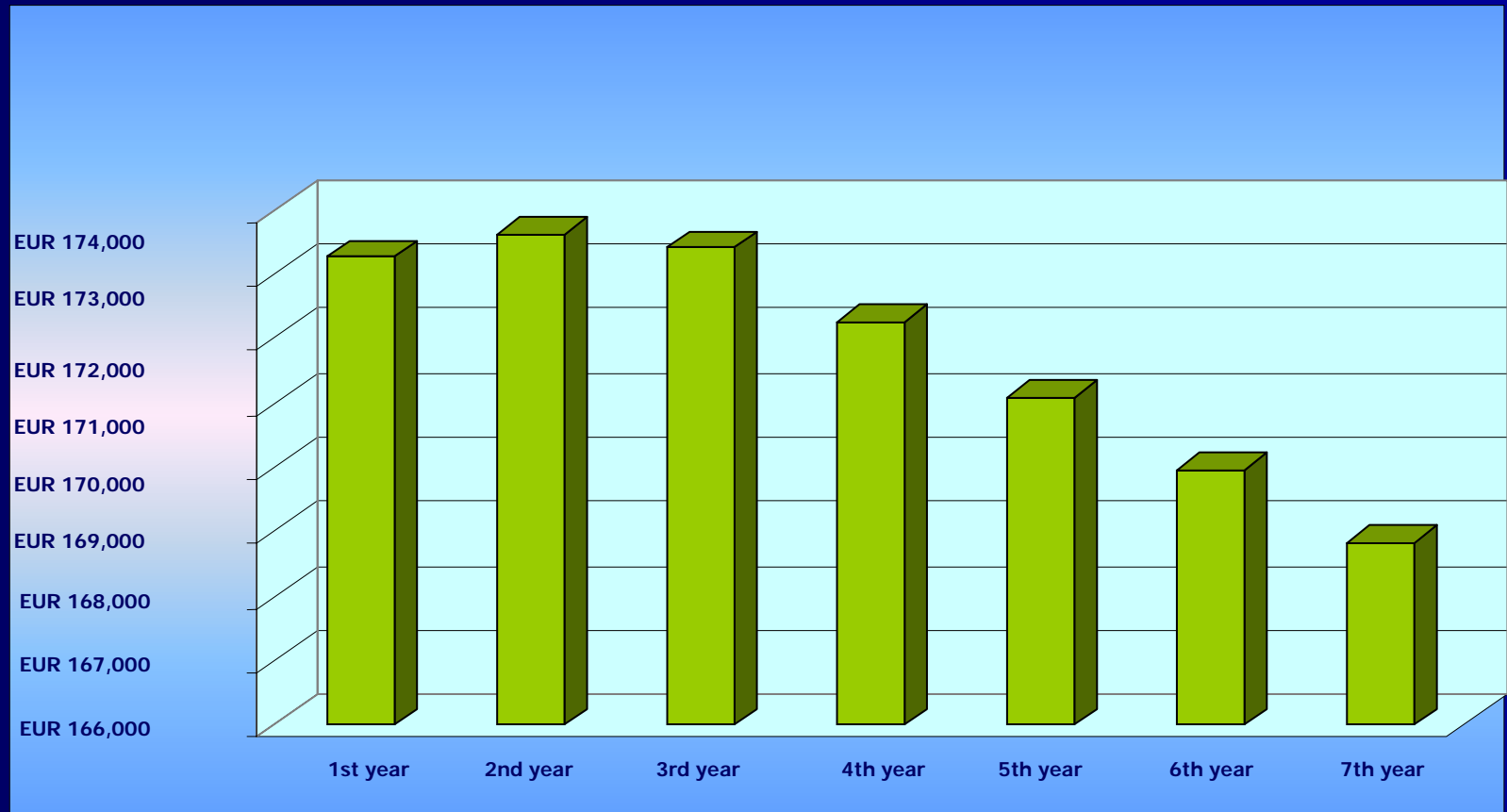
Dynamics of Reduced Costs or Alternative Income Created by the Project for a Seven-Year Period for one Hospital



Project Implementation will Reduce

- o personnel costs (reduce of the number of radiology laboratory assistants)
- o material costs (film images)
- o costs for storing of digital data in CDs

Dynamics of Expenditure Created by the Project for one Hospital



Necessary Hospital Investments

- o repair and development of premises for placement of teleradiology equipment
- o installation of ISDN line
- o financial investment to cover the additional costs in first project implementation phase

Teleradiology Project Additional Costs

- o additional expenditures for electricity
- o depreciation of capital assets
- o payment for rent of teleradiology equipment
- o data transfer costs for subscription of ISDN line and INTERNET line
- o purchase of data storage floppy disks

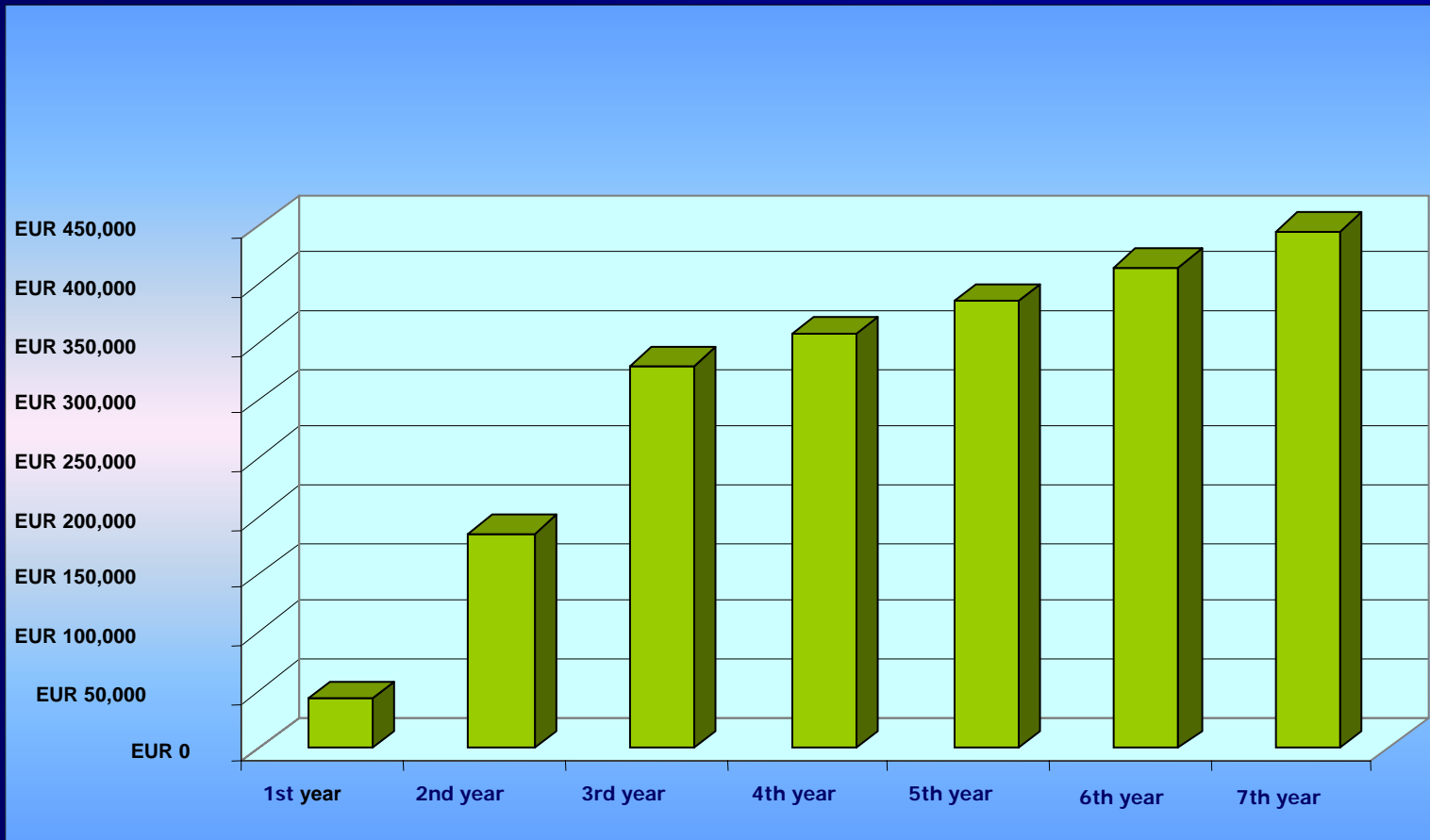
Step-by-Step Implementation of the Project

- o the images fully duplicated by the film images - half a year period
- o decrease duplication of images to 50% - one year
- o decrease duplication of images till 20% - one year
- o about 5% using films for the rest of the seven year period

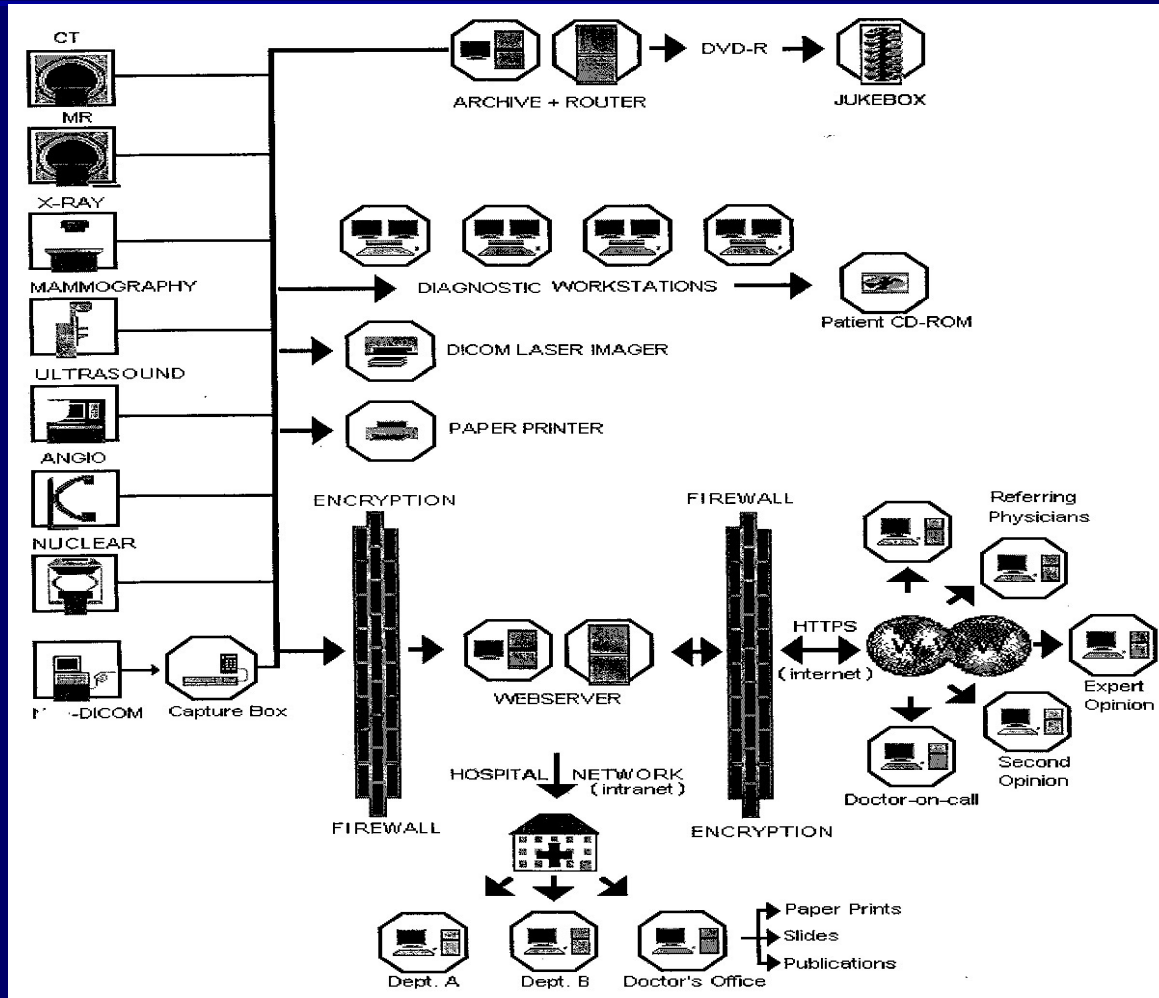
The Income From the Project

- o will start with the moment when the digital images will be duplicated by film images only for 50%
- o the initial investments of the hospital will be justified in 1,6 years

Dynamics of Net Profit Created by the Project for one Hospital



Riga city teleradiology project for hospital Gailezers



General Hospital Gailezers





International presentations

"Teleradiology Project for Latvia"

International Hospital, Equipment & solutions

(June 2004, volume30, Nr. 4)

"Telemedicine Development Perspectives in Latvia" Exhibition and Conference Guide, LUXEXPO Luxembourg (April 21-23, 2004)

EuroPACS-MIR 2004 in the enlarged Europe

(September 16-18, 2004, Trieste - Italy)

International cooperation: Charite Berlin Radiologisches Institut Charité Campus Charité Mitte



Charite Berlin Radiologisches Institut

Charité Campus Charité Mitte



Hospital in Wien



Luxembourg Med-e-Tel, Luxexpo (April 21-24, 2004)



Time: Tele-imaging in Medicine, China with Europe, April 1, 2005 London, The Royal Society, Steering Committee



USA and Canada





***Thank You for Your
Attention!***

Riga council, Telemedicine agency

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