

The TENPET consortium



Centro PET Complutense (CPC)

ES



Université de Bretagne Occidentale (UBO)

FR



MedCom Gesellschaft für medizinische
Bildverarbeitung mbH (MEDCOM)

DE



Universidad Politécnica de Madrid (UPM)

ES



Fundación Instituto Valenciano de Oncología
(FIVO)

ES



Deutsches Krebsforschungszentrum (DKFZ)

DE

Overall Project Objective

TENPET (Trans-European Network for Positron Emission Tomography)

TENPET validated the market concerning the provision of integrated teleconsultation and computer supported cooperative work (CSCW) services among positron emission tomography (PET) centres in Europe.

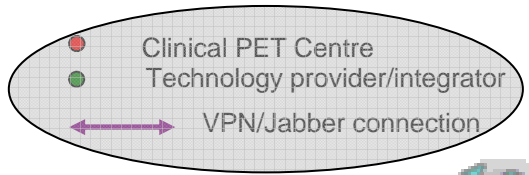
See: www.tenpet.com

What is PET?

PET is a nuclear medicine imaging modality that detects signals emitted by specific radioactive tracers to construct images of their distribution in the living body, depicting molecular-level physiological function and measuring important vital processes, including glucose metabolism in the cells, blood flow in tissue and brain and oxygen utilization.

Why TENPET?

- PET requires highly qualified physicians, technicians.
- Relatively few Centres currently operate in each European country, separated by language and cultural barriers.
- Some Centres are specialised on particular cases (oncology, cardiology or neurology). Others count only little time of operation, therefore need support, training and advice from experienced Centres.
- Further needs exist for second opinion on rare cases, remote reporting tools, efficient patient referral, services to mobile units, coordination with radiotherapy, use of advanced imaging tools.



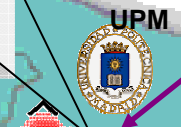
Remote Reporting

- Clinical multidisciplinary meetings
- Radiotherapy department

- Connections with local (Univ. Heidelberg, DKFZ internal) and international partners (Poland, Greece, Israel).
- Data exchange for dynamic PET analysis with UPM

Referral site external hospital

Second Opinion (Houston, Seville, Valencia)



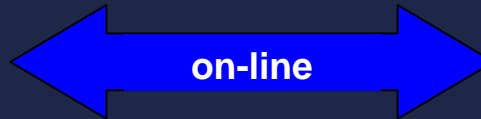
Connections with CPC for second opinion



Communication Modes



TENPET© workstation 1



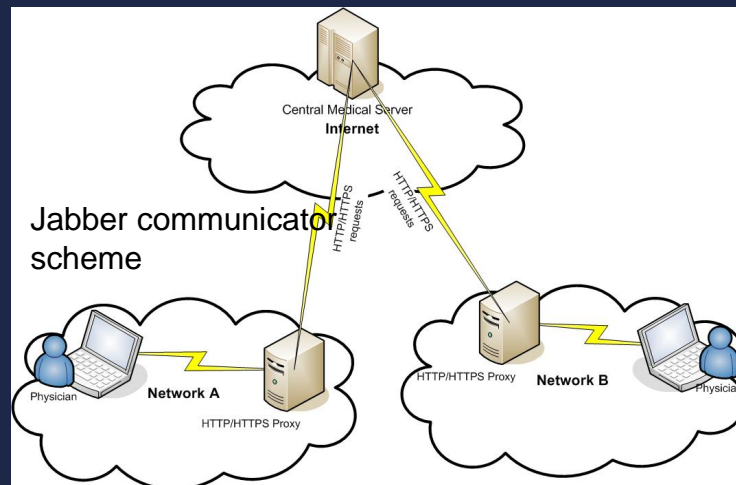
- Interactive communication
- Shared screen view
- Image/patient data exchange
- Chat



Transmit message with images, patient data, audio, additional documents and information, etc.



TENPET© workstation 2



Jabber (open-source, XML-based) solution:

- Solves all firewall problems
- Full Point to Multi-Point communication
- Network friendly data transmission
- Auto / minimal configuration
- Support of proxies, SOCKS 4+5, HTTPS
- Synchronous & Asynchronous Communication
- One to One/Many Communication

Results – Pilot Clinical Trials

Application Modes (Business Models):

Second Opinion: for online/offline collaboration on doubtful or difficult patient cases

Remote Reporting: for transmission of PET imaging studies that can be reviewed by remote physicians either in real time or later, using the system's store-and-forward capabilities

Electronic Fax: for forwarding PET studies to the referring physicians or to the radiotherapy unit for planning. Alternatively, for transferring the previous patient's history of other digital imaging studies to the examining PET centre for the completeness of the PET diagnostic report

Interdisciplinary Communication: for virtual meetings among doctors from various specializations

Advanced Console: system software, which provides advanced image visualization and processing and allows more accurate image interpretation comparing to the imaging software offered by the camera's manufacturer

Results – Pilot Clinical Trials

Overall evaluation and feedback by medical users:

The users strongly agreed (57%), agreed (29%) or somehow agreed (14%) that the TENPET platform represents an efficient communication channel between colleagues.

The services provided were at least equal (29%) or better (71%) than previously employed practices.

86% thought that the use of offline consultations with TENPET should be used for diagnosis and (100%) that the authorities should empower the use of the TENPET platform