

WG 4. Technology and Automation in Pathology

**COST Action IC0604
Euro-Telepath**

Madrid, 2nd February 2008

WG4 Mission and objectives

Complete scientific programme of
COST related to assigned tasks:

Microscopy digital solutions

Managing data in Pathology

Automated process

Scientific programme: 1) automation procedures in Pathology

- ✍ Integration of new automated instruments in pathology
- ✍ Identification technologies (RFID, bar code)
- ✍ Other: wireless networks, autopsy and gross study rooms, voice recognition, and automated image analysis
- ✍ Microscopic digital imaging must be also an automatic procedure

Scientific programme: 2) efficient scanning solutions for microscopy

- ✍ Scanning pathology daily workload (up to 100 slide digitisation per day)
- ✍ Highest image quality available
- ✍ Software integration
- ✍ Application in Clinical and Research fields (eg. Tissue Micro-Array -TMA analysis)

Scientific programme: 4) virtual slide standard viewer specifications

- ✍ Selecting the best viewer design based on standardized JPEG2000 format (and other standards) for microscopic pathology images
- ✍ Pathologists must feel as comfortable as using conventional microscopes.
- ✍ Facilitating access to Anatomic Pathology images by other medical specialties

Scientific programme: 6) Changes in pathology information systems (PIS)

- ✍ Web-based telepathology services must be integrated with the existing pathology information systems
- ✍ Extract key standard procedures, in accordance to the IHE initiative in existing solutions in PIS
- ✍ Encourage joint meetings among PIS manufacturers and vendors

WSI Technology

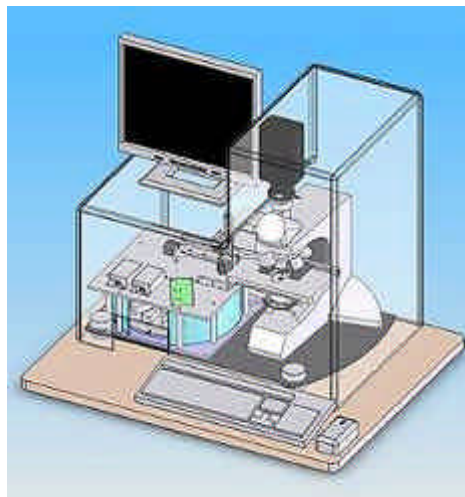
- ✍ Virtual Slide systems:
 - ✍ **Aperio ScanScope**
 - ✍ **Mirax Scan**
 - ✍ **Olympus SIS .slide**
 - ✍ **Hamamatsu Nanozoomer**
 - ✍ **Bioimagene,...**
- ✍ **Nikon Coolscope, Leica**

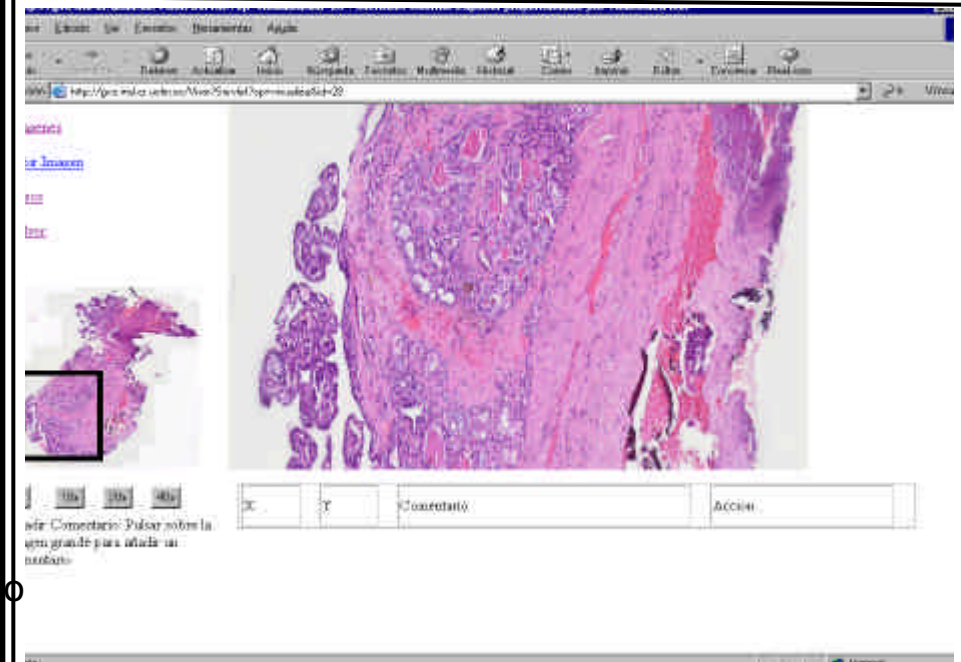
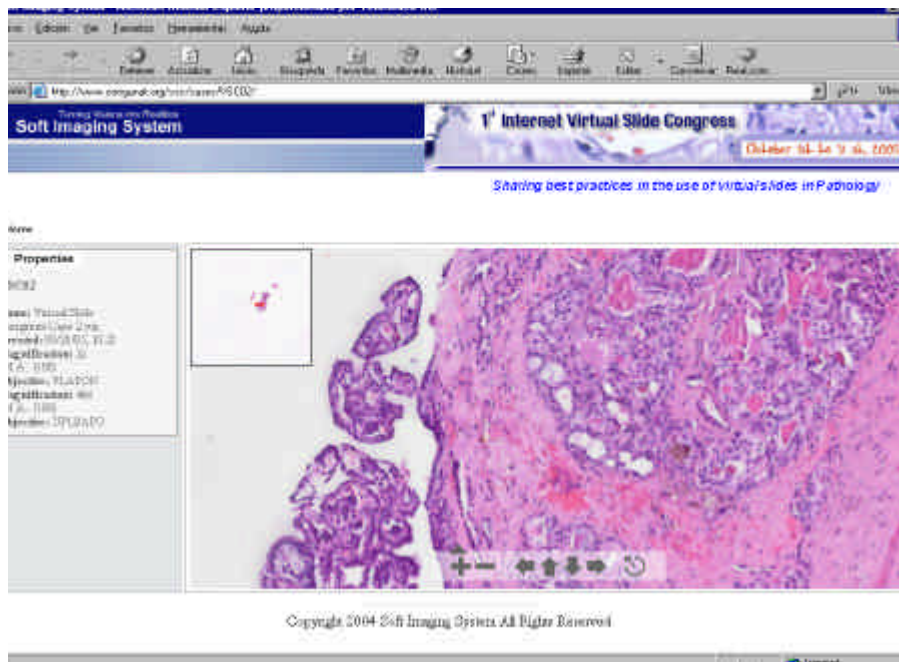
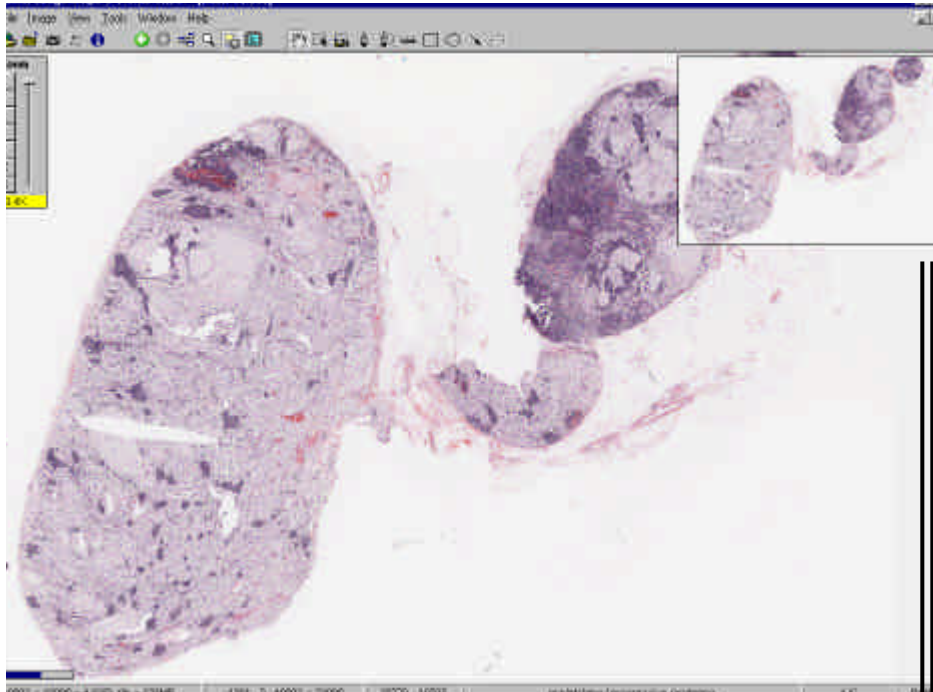


Bright field, fluorescence, multispectral...

Teleconsultation platforms (Primary, Secondary)

- ✍ Public consultation
- ✍ Secure sessions (Approval from Health Dpt.):
 - ✍ Connection between hospitals using *virtual private network*, SSL and Web-based certificate enrollment
 - ✍ Test platform





ACT 10

WG4 Members

COST Action IC604 MC delegates			WG4. Technology and Automation in Pathology
Name	Role	Country	
Mavromoustakis Constandinos	(full details not available)	Cyprus	
Constandinos Mavromoustakis	I.T.	Cyprus	
Jorma Isola	Pathologist	Finland	
Mikael Lundin	I.T.	Finland	
Jacques Klossa	I.T.	France	
Christel Le Bozec	I.T. & Pathologist	France	
Bernd Blobel	I.T.	Germany	
Thomas Schrader	Pathologist	Germany	
Vincenzo Della Mea	I.T.	Italy	
Arvydas Laurinavičius	Pathologist	Lithuania	
Vytenis Punys	I.T.	Lithuania	
Grzegorz Malek	Pathologist	Poland	
Janina Słodkowska	Pathologist	Poland	
Luís Gonçalves	Pathologist	Portugal	
Branimir Reljin	I.T.	Serbia	
Jose Sacristán París	I.T.	Spain	
Marcial García Rojo	Pathologist	Spain	
Michael Ansorge	I.T.	Switzerland	
Touradj EBRAHIMI	I.T.	Switzerland	
Mohammad ILYAS	Pathologist	United Kingdom	
Working Groups members			
Rimas Labrencas		Lithuania	
Justinas Bauzys		Lithuania	
Jurate Puniene	I.T	Lithuania	
Jonas Punys	I.T	Lithuania	
Ramunas Maknickas	I.T	Lithuania	
Henar Herrero	Mathematics	Spain	
Pablo Castán	Biologist	Spain	
Gloria Bueno	I.T	Spain	
Céline Paloc	I.T	Spain	
Ian Ellis	Pathologist	United Kingdom	
Jim Lowe	Pathologist	United Kingdom	

WG4 Tasks distribution

Automation / Scanning solutions

1. Full study analysis of **microscope brands**.
2. Analysis of implementation of **database** engine, **search** facilities, and **viewer modules** of virtual slides database for clinical, educational and research purposes.
3. Study of **integration** of web-based telepathology **services** with the existing pathology information systems and the electronic health record of the patient.
4. Study of integration of **multimedia** communication tools.
5. Providing trustiness in management of **confidential medical data** and legal parameters to be included in the pathological image visualization standard.
6. Collaborating in action **dissemination** (WG1)

WG4 Expected output during Action

Technical reports

Short-term Scientific Missions (STSM)

 Exchange experiences

Reference web site

WG4 Objectives and output for 2008

- Automation in Pathology: Analysis of Scanning solutions for Pathology microscopic slides.*
- Implementation of Interoperability between information systems*

WG4 COST Activities for 2008

- ✍ WG4 meetings
 - ✍ Collaboration with WG1: Processes automation
 - ✍ Collaboration with WG2: Standards in daily practice
 - ✍ Collaboration with WG3: File formats, viewer, searching
- ✍ Short-term Scientific Missions (STSM): e.g. Serendipia SESCOAM's Project (standards based regional digital pathology system)
- ✍ Technical report on best existing scanning solutions and emerging imaging solutions

WG4 2008 Calendar

	Madrid 1 February	Berlin 9-10 May	Toledo 15-17 May	Évora 2-3 October	Warsaw 28-29 November
MCM	X			X	
WG1	X	X		X	
WG2	X		X	X	
WG3	X			X	X
WG4	X			X Tech. Report Imaging solut.	X Interoperability telepathology services