

22/10/2012

**Mattone Internazionale**



**EUROPEAN PATIENTS  
SMART OPEN SERVICES**

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healthcare  
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## epSOS LSP

...from Policies, through Records to Endurance

**Marcello Melgara**

**Lispa / Regione Lombardia – DG Sanità**





- ✓ **EU DIRECTIVE 24/2012 on Cross Border mobility Healthcare:**
  - ✓ to be adopted by MS by October 2013
  - ✓ Lisbon Strategy, i2010 Initiative: Promotion, use and exploitation of ICT
  - ✓ eHealth: “i2010 sub group on eHealth” (S.M., identification of priority for 2007)
- ✓ **EU Framework Programme Competitiveness and Innovation 2007-2013**  
(Decision 1639/2006/CE, 24.10.06)
  - ✓ Subprogramme ICT-PSP: Call 2007 & 2010 eHealth
- ✓ **epSOS Phase 1 – Phase 2:**
  - ✓ Large Scale Pilot to study, implement and apply infrastructure for the cross-border interoperability of clinical documents and evaluate the overall sustainability



**epSOS 1:** Consortium is composed by 27 beneficiaries from 12 Member States:  
**AT, CZ, DE, DK, EL, ES, FR, IT, NL, SK, SE e UK + Industry Team (~45)**

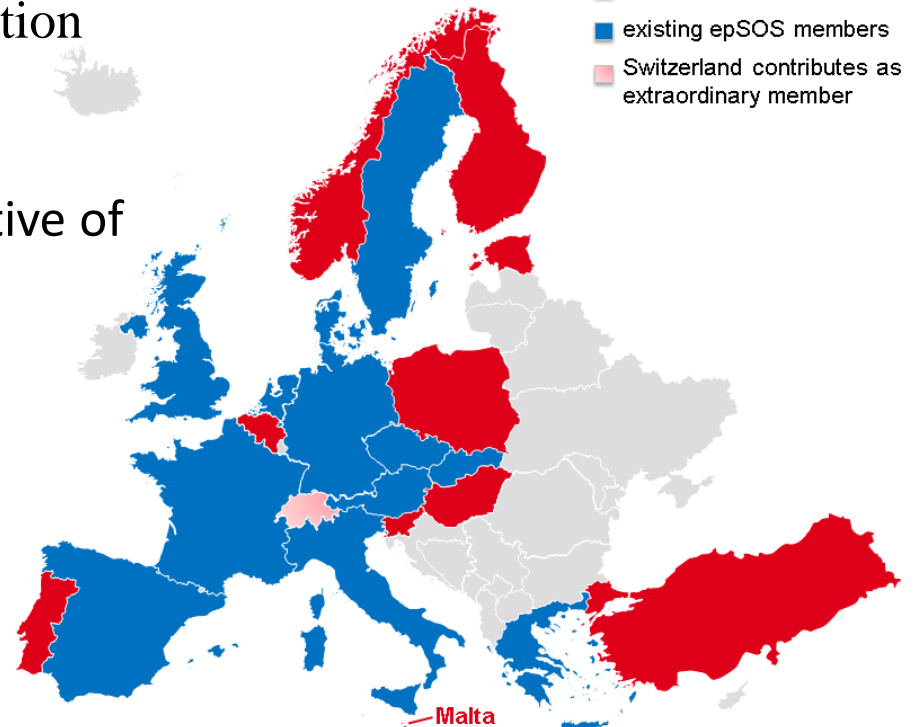
**epSOS 2:** 45 beneficiaries from 25 States:

**Belgium, Croatia, Estonia, Finland, Hungary, Latvia, Malta, Norway, Poland, Portugal, Slovenia, Switzerland, Turkey**

**15 Observers:** Bulgaria, Croatia, Iceland, Lithuania, Luxembourg, Serbia, ..., ...

**+ USA e Canada = Total 40 Nations**

- Coordinator: **SALAR** (Swedish Association of Local Authorities and Regions)
- **From 01.07.2008 to 31.12.2013**
- Lombardia participates as representative of Ministero Salute and D.D.I.





- In preparation and application of:
  - EU Directive on Patient Cross-border Mobility (April 2011)
- Goal for the epSOS eHealth Project:
  - “to develop a practical eHealth framework and ICT infrastructure *[based on existing national infrastructures]* that will enable secure access to patient health information, particularly with respect to a basic patient summary and ePrescription, between European health care systems”
- Challenges to get there
  - Legal Interoperability
  - Organisational Interoperability
  - Semantic Interoperability
  - Technical Interoperability
- Basic Use Cases:
  - Patient Summary interoperability
  - ePrescription / eDispensation interoperability
  - Patient Access



# epSOS Setting Sails

- **Athens, 08/11/2011:**
  - IT- eP dispensed in a Greek pharmacy
- **April 2012:**
  - AT, CZ, ES, FR, IT and GR
- **Approved for Operation:**
  - DK, SE, SK
- **Passed Projectathon May 2012:**
  - CH, EE, FI, PT, TR

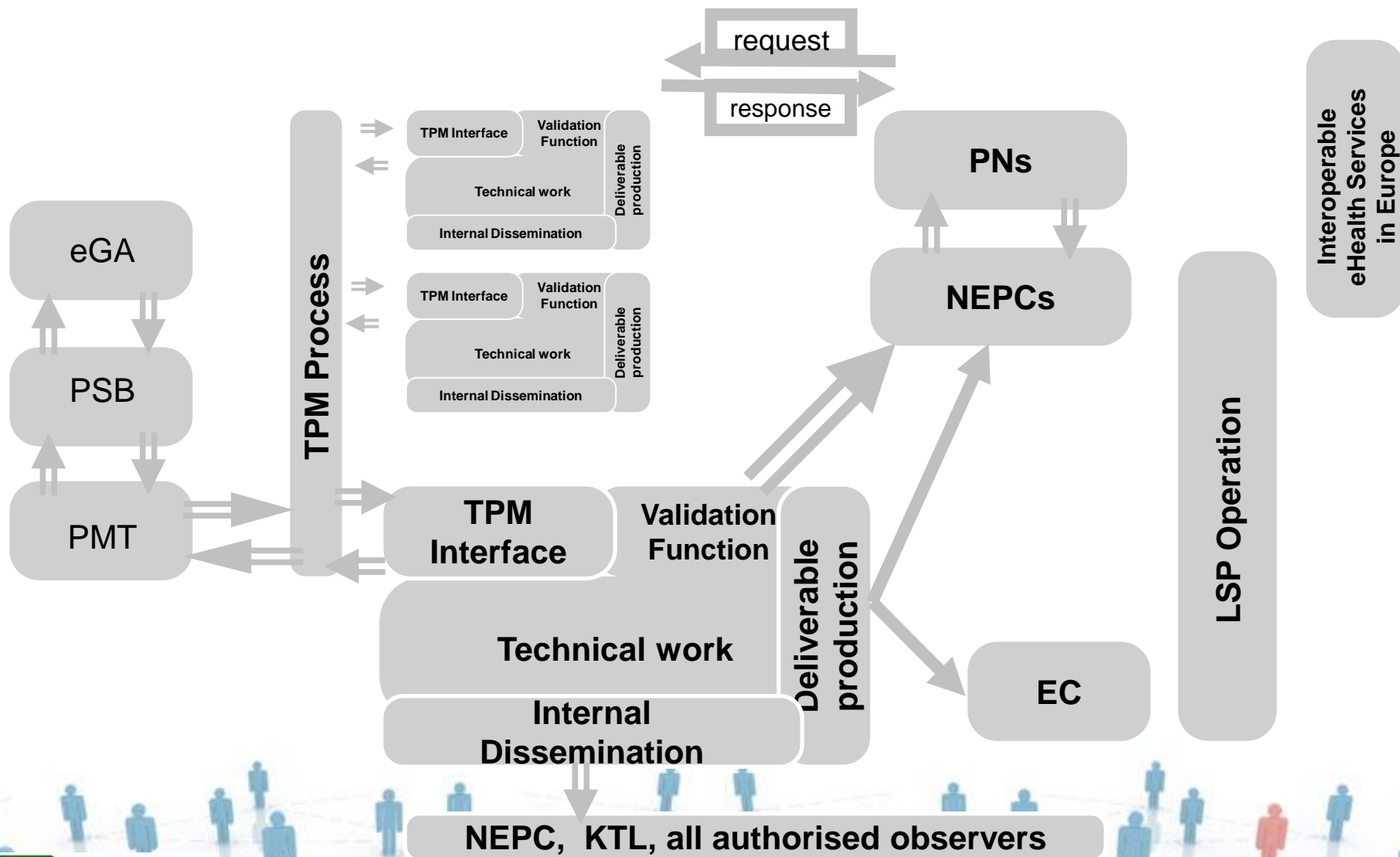


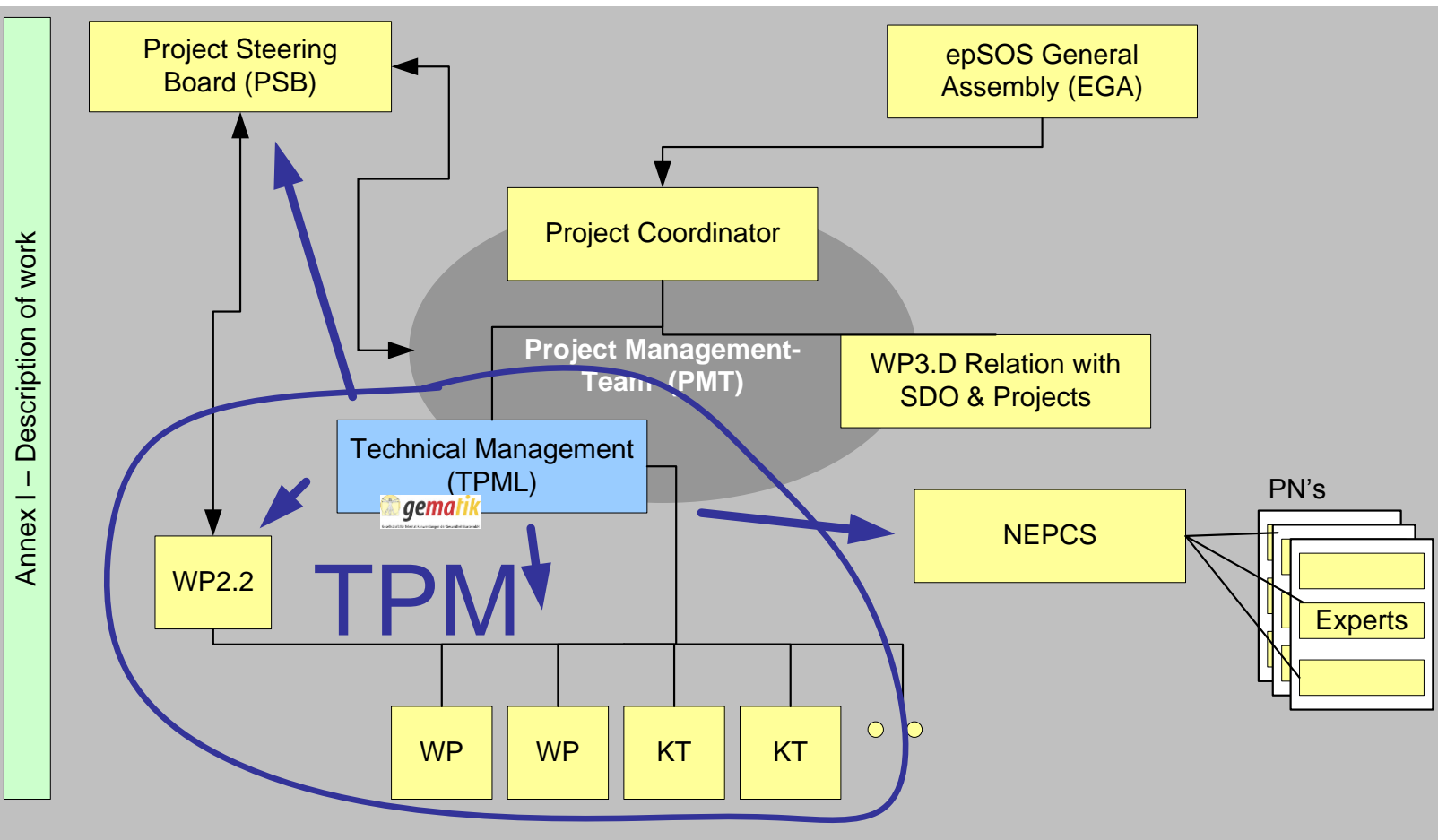
## Main epSOS Methodological Pillar Principles



- epSOS **SHOULD** make interoperate **EXISTING** services
- epSOS **MUST NOT** interfere with existing national infrastructures.
  - epSOS participating nations **MUST NOT** be forced to modify their existing national eHealth infrastructures or legislations in order to participate in epSOS
  - epSOS **MUST NOT** specify normative (technical) approaches that exclude participating nations from taking part in epSOS pilots and operations under the legal umbrella of epSOS
  - epSOS cross-border data sharing services **SHOULD** be as transparent for affected human entities as possible, in a way that epSOS **MUST NOT** enforce changes in medical and/or administrative processes at the affected points of care
- epSOS **adopts** a Service Oriented Architecture style

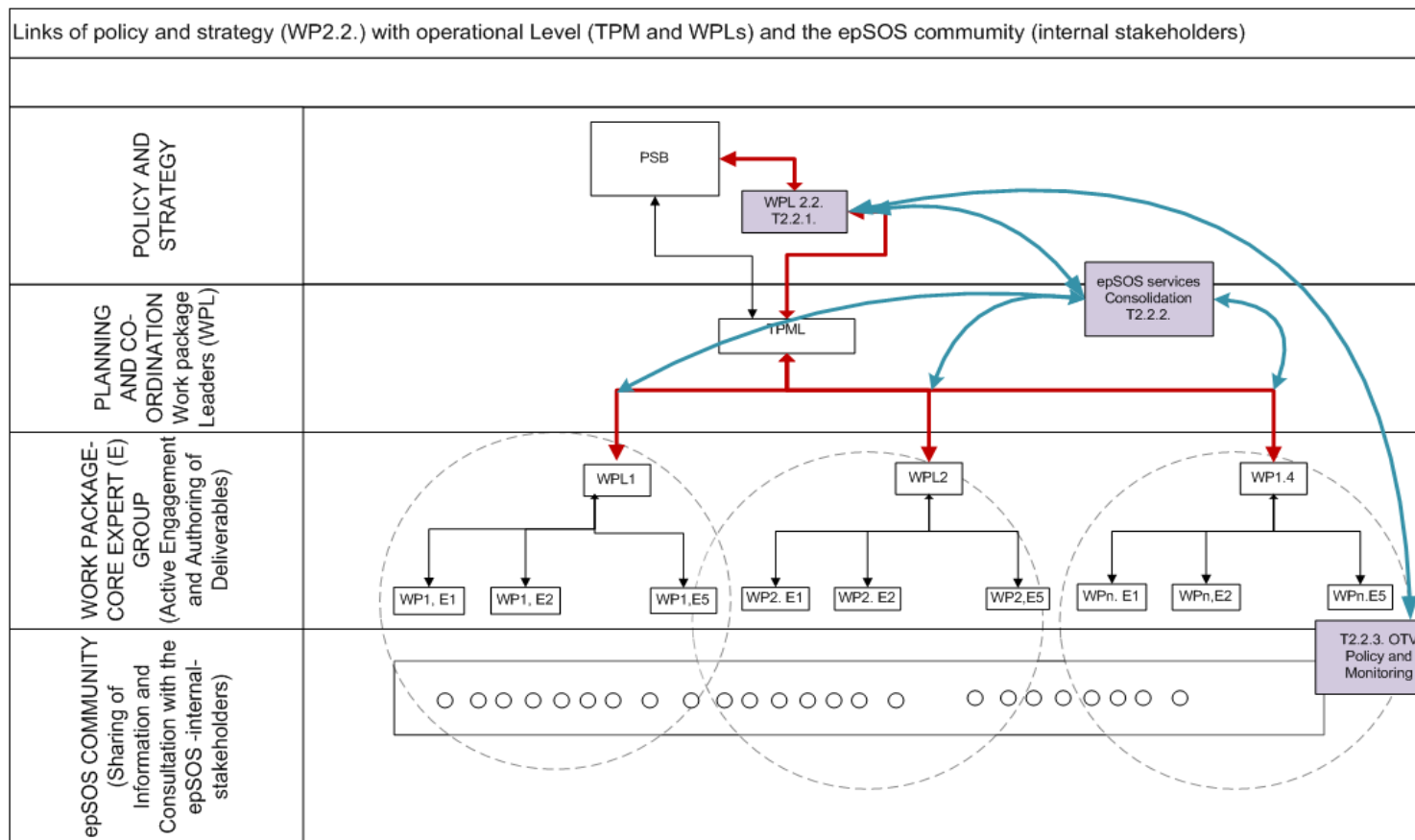








## Governance Paper – Work structure



\* TECHNICAL CONTENT EMBRACES ALL ASPECTS OF INTEROPERABILITY AS IN THE EC RECOMMENDATION: LEGAL, ORGANISSATIONAL, TECHGICAL, SEMANTIC) AND AWARENESS/TRAINING



## *Hardest...*

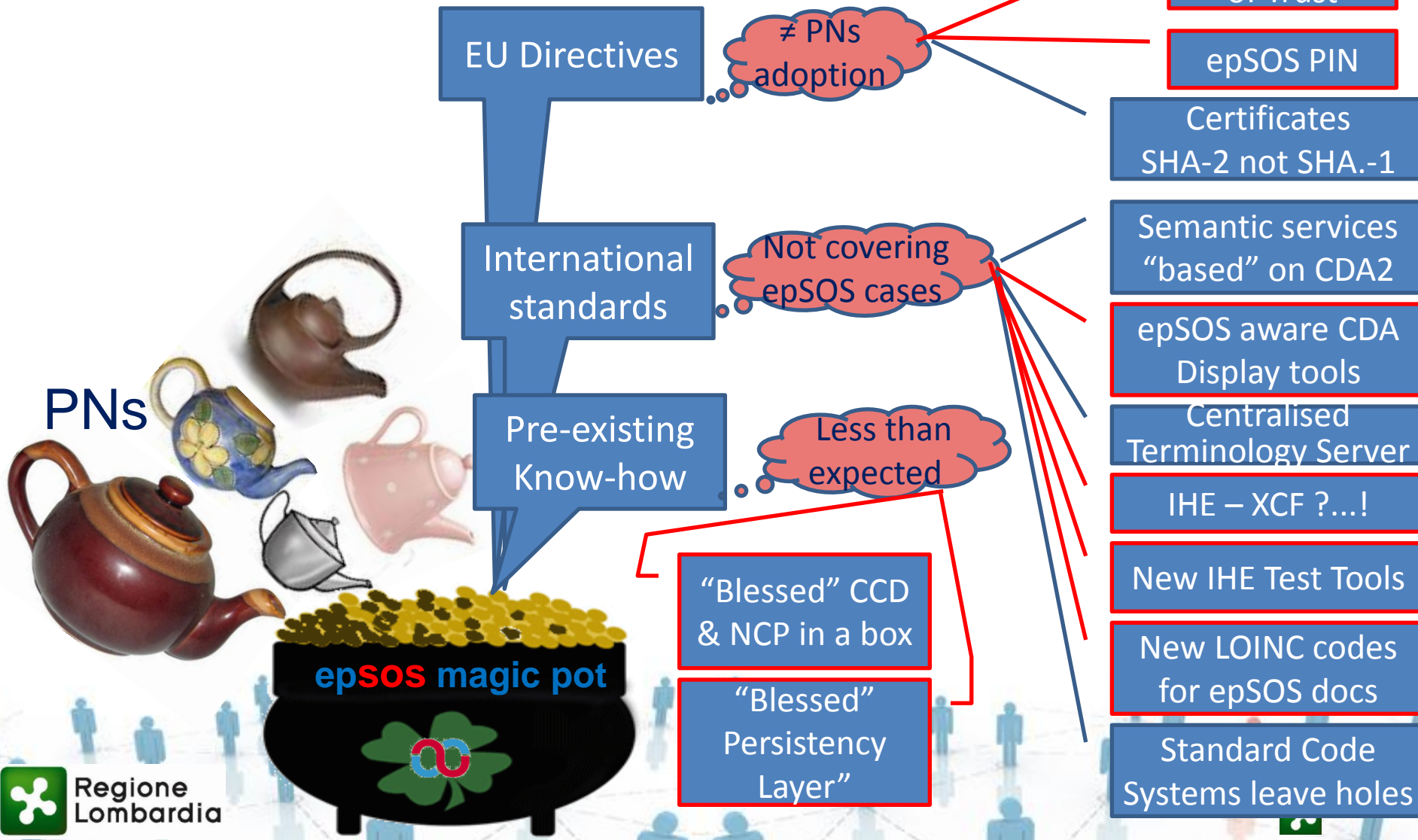
- Legal Interoperability: Trust / Privacy / Consent management
- Security: different adoption of EU directive
- Organisational: Health Care systems / Health Professional roles
- Document “meaning” and minimum/maximum information
- Terminologies: Transcoding among International Coding Systems
- Syntax: Common document based on CDA -2 L3 / L1:
- Messages / data exchange: IHE X\* profiles
- Identification of Patients, Authentication of Health Professional

## *... Easiest*





## „Yes, but... **there is an issue !**“





*Make things easier and natural as crossing borders in Europe...*

## Support creation of eHealth Eco-system across Europe and beyond

- Generalised / uniform adoption of EU Directives
- Creation of eHealth Services at National level
- Creation of market opportunities for Vendors

## Build sustainability

- Convergence of Technical specs to International Standards
- Liaising with Standardisation Bodies for Specs maintenance
- Simplify process to extend trust to new (Member) States
- Deliver Open Source platform / foster creation of OS Community
- Build semantic interoperability through centralised / distributed liability
- ... Adopt identification process that does not require centrally managed configuration

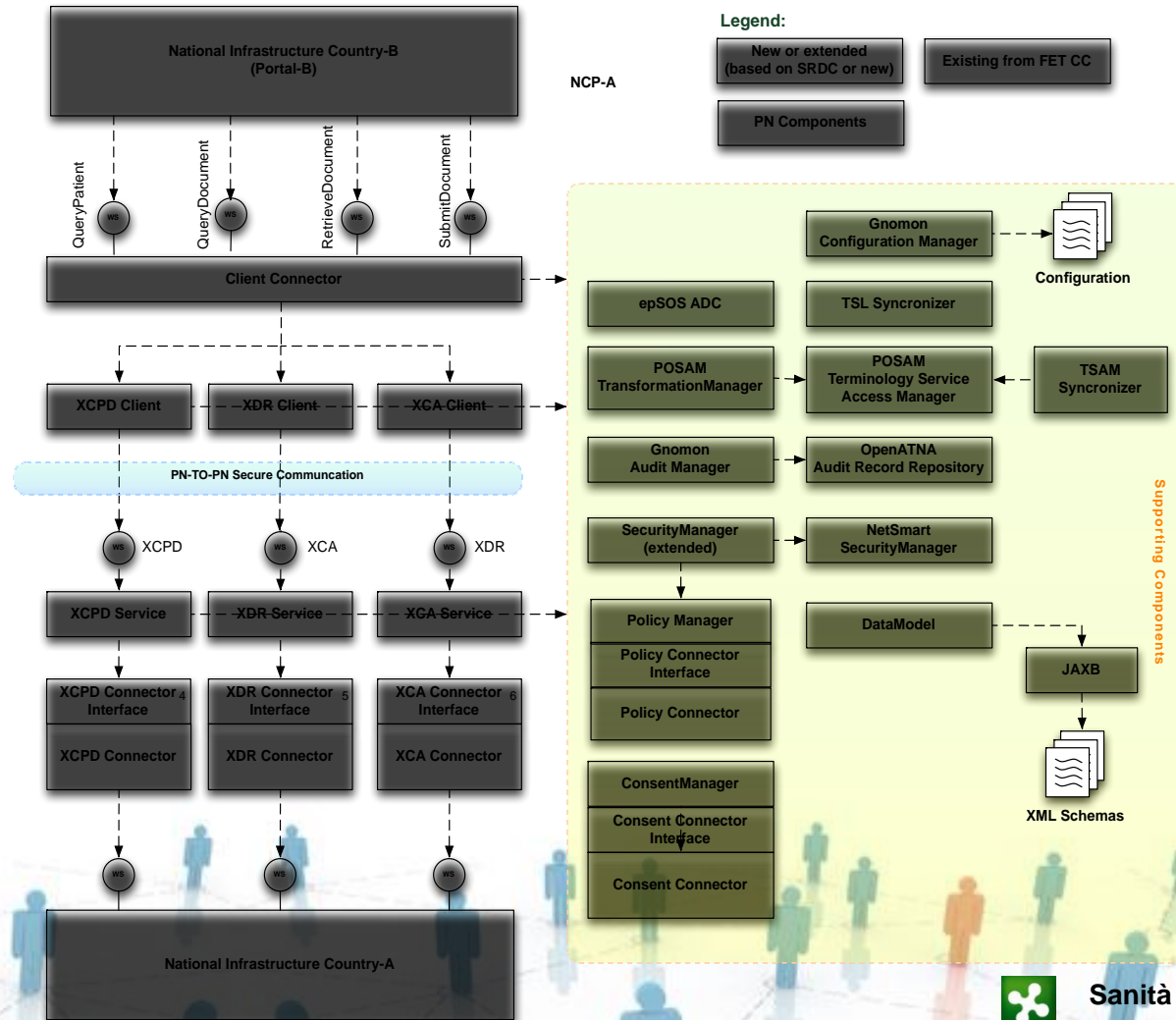




□ A full Open Source version of NCP components recognised as common to all Participating Nations will be provided under either ASL v2 or GPL v3 licenses.

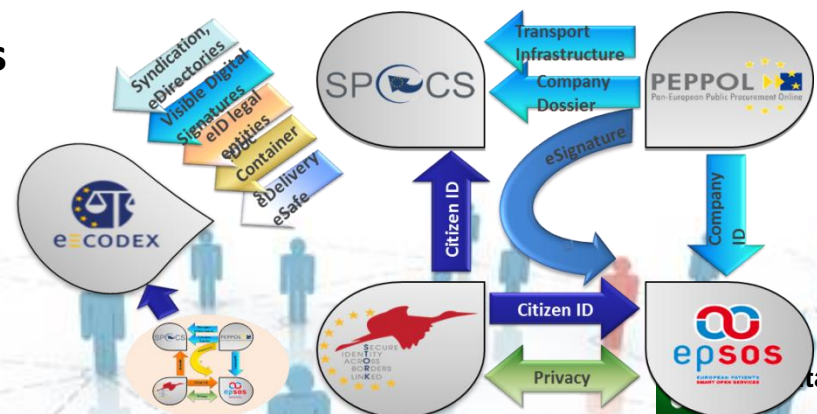
□ OpenNCP components will be made available through JoinUp Open Source community

□ Join Connectathon: international test event





- ❑ epSOS profiles included in (European) Connectathon
- ❑ Strict co-operation with eHealth Governance Initiative (from i2020)
  - ❑ Alignment with eHealth Network: MoH network @DG SANCO toward the adoption of EU 24/2011 Directive
- ❑ Agreement for long term sustainability of epSOS “semantics” are under definition with International Standardisation Bodies
  - ❑ Contribution to ePrescription Guideline definition of DG SANCO
  - ❑ Co-operation with eHealth Semantic Network
  - ❑ Joint activity with EMA / IHTSDO / HL7 / IHE ePharmacy
- ❑ epSOS specs adopted in International Competition (Greeker eP Service)
- ❑ The European Infrastructure “Connecting Europe Facility” will be based, for eHealth services, on epSOS specs and components
- ❑ epSOS in CIP PSP 2012: e-SENS to integrate LSPs
- ❑ ... EU-US PS Interoperability roadmap



# epSOS Setting Sails in Lombardy



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## HEALTHCARE SERVICES FOR EUROPEAN PATIENTS



Are you a foreign citizen coming from a European Country ?

If you are a foreign citizen from one of the European Countries listed below and you have a valid Patient Summary created in your own Country, ask the local healthcare professionals how to access the service.

- |   |   |
|---|---|
|  Ici, les professionnels de santé ont accès aux Services epSOS |  Her finder du epSOS services                                  |
|  I servizi epSOS sono disponibili qui                          |  Hawnhekk issib servizzi tal-progett epSOS                     |
|  Aquí dispone de servicios epSOS                               |  Hier sind epSOS Services verfügbar                            |
|  epSOS tjänster är tillgängliga här                            |  Ici, les professionnels de santé ont accès aux Services epSOS |
|  Zde lze využít epSOS služby                                   |  epSOS services are available here                             |
|  epSOS services are available here                            |   |

**Hospital Emergency Wards**  
Monday-Sunday: 0:00-24:00

**Continuity of Care Service**  
Mon-Fri: 20:00-8:00; Sat-Sun: 8:00-20:00

Ospedale di Desenzano, Loc. Montecroce  
Ospedale di Gavardo, Via A. Gosa 74  
Ospedale di Manerbio, Via G. Marconi 7

Desenzano, Presidio ASL, Via Adua 4 - Tel. 030 9120393  
Gargnano, Presidio ASL, Via Repubblica 2 - Tel. 0365 71114  
Salò, Presidio ASL, Via Fantoni 89 - Tel. 0365 296697

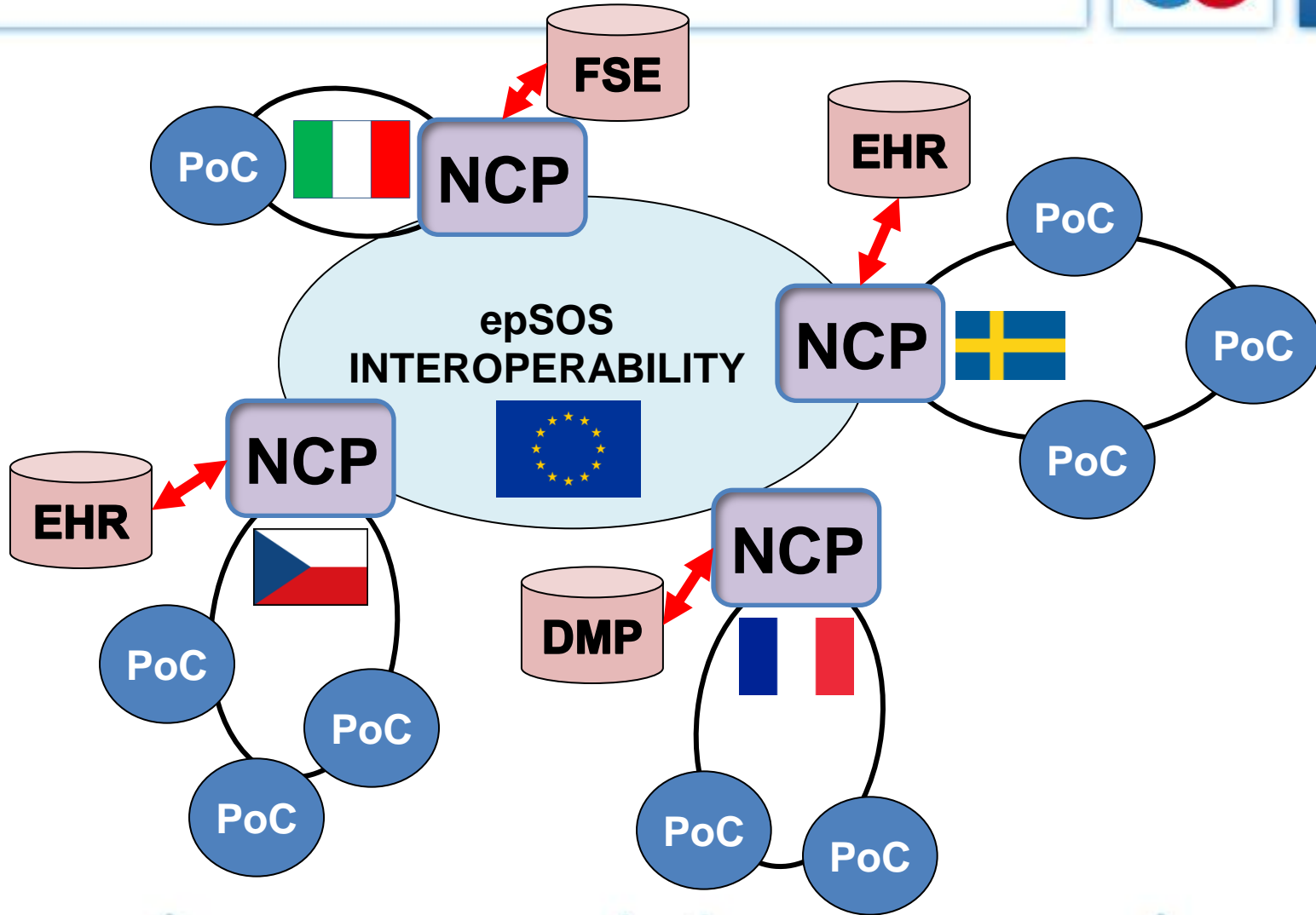
[www.epsos.eu](http://www.epsos.eu)

[marcello.melgara@cnt.lispa.it](mailto:marcello.melgara@cnt.lispa.it)

[www.epsos.eu](http://www.epsos.eu) - [www.aslbrescia.it](http://www.aslbrescia.it) - [www.aod.it](http://www.aod.it)





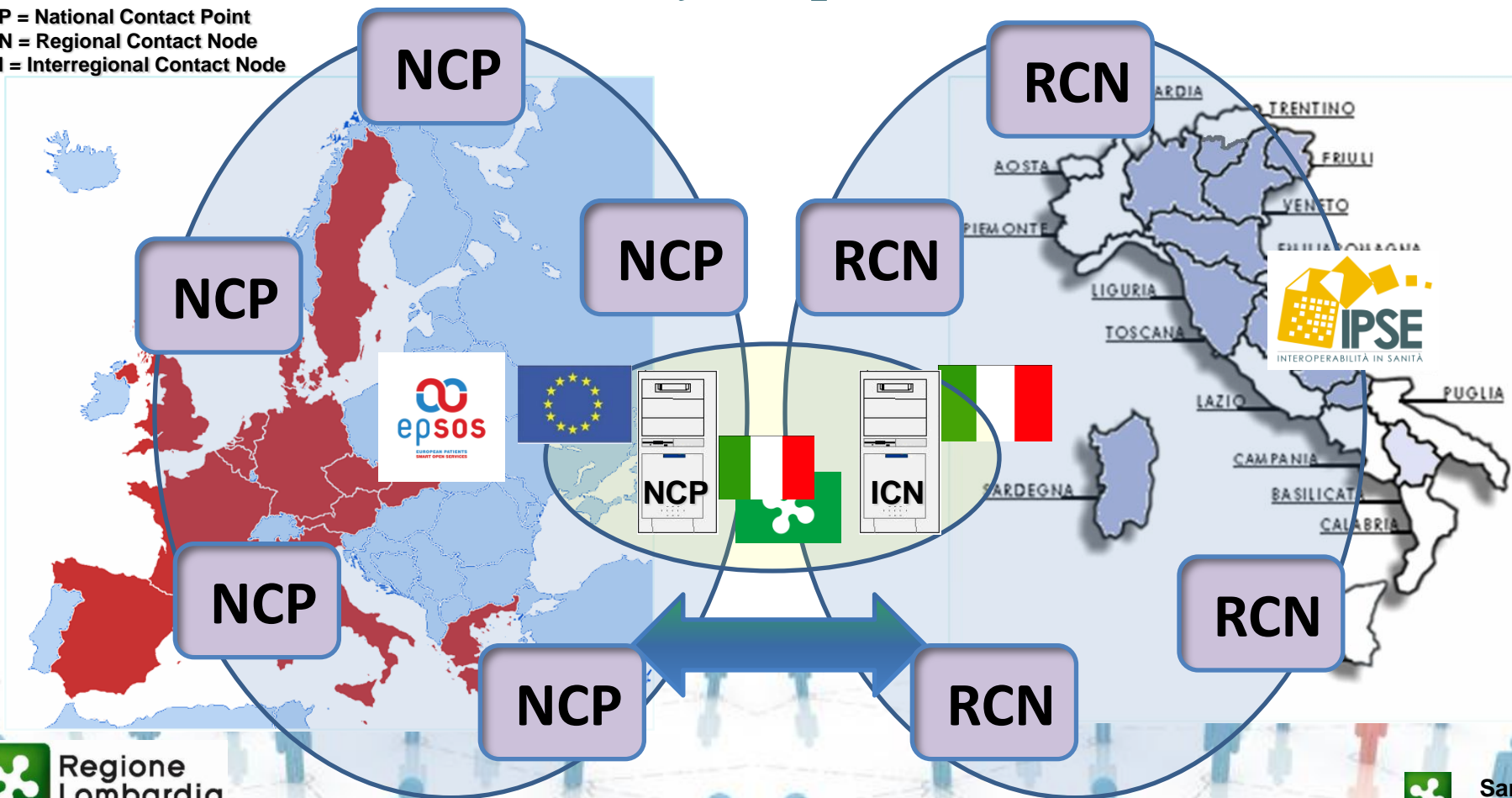


*The interoperability Infrastructure is based on peer-to-peer network of National Contact Point*



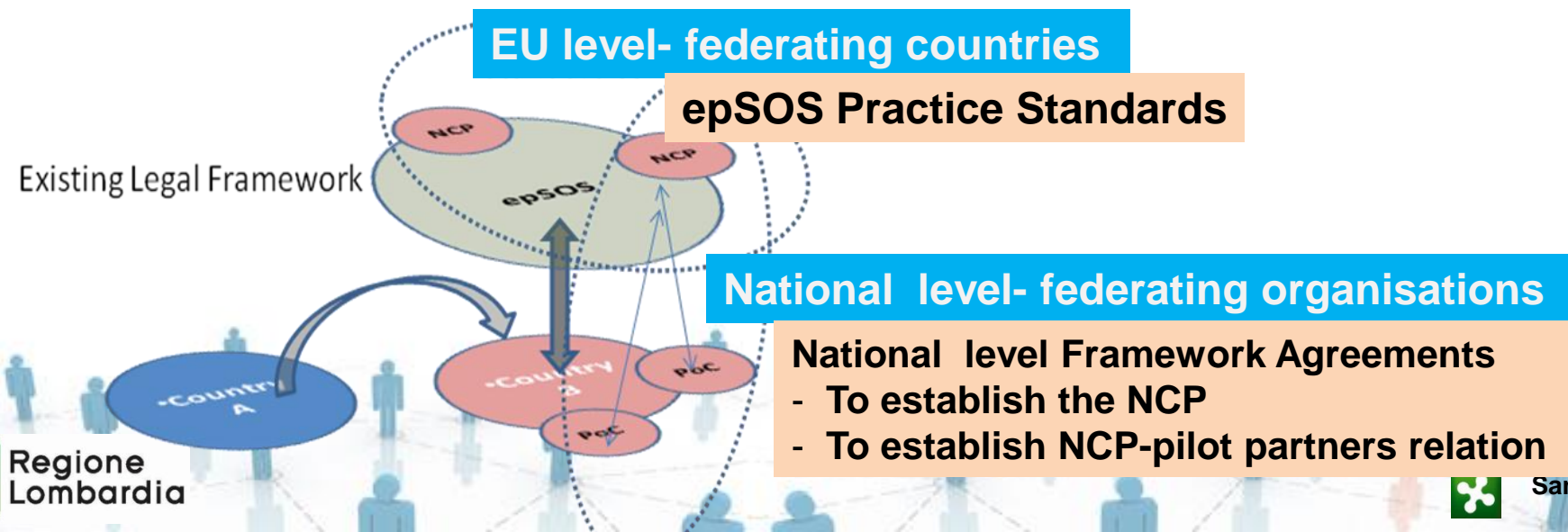
## *IPSE: interoperability among Italian Regions implemented in a compatible and connected way to epSOS*

NCP = National Contact Point  
RCN = Regional Contact Node  
ICN = Interregional Contact Node





- ❑ A structure of Contract mutually recognised to control the application of common rules and procedures for security, primacy
- ❑ Robust definition of roles of Data Controller / Data Processor related to the purpose of data processing
- ❑ Continuous relation with National DPAs and WG Article 29
- ❑ Careful analysis and application of rules for Consent Management
- ❑ Security, privacy and organisational Audits

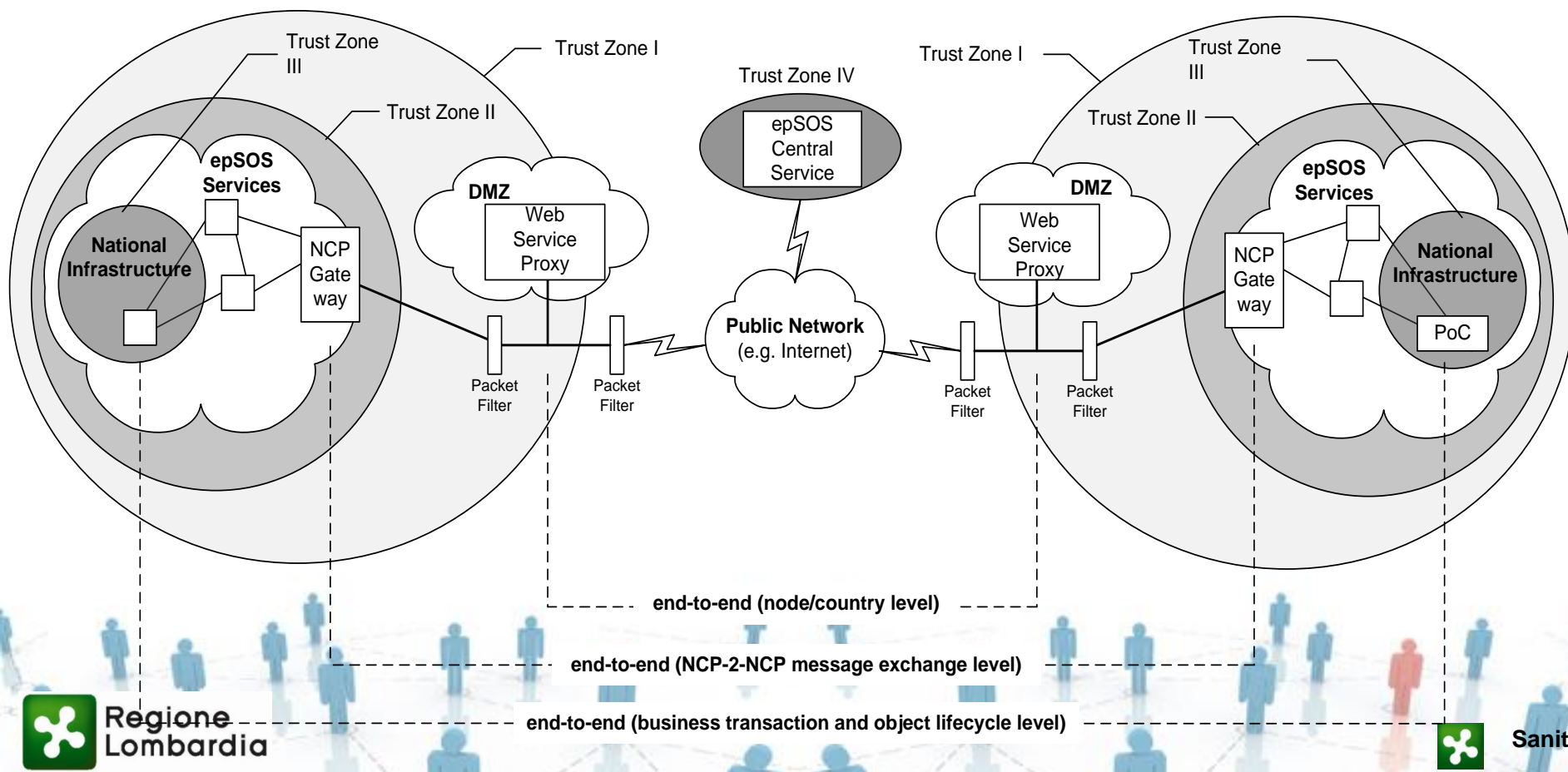


# epSOS reusable blocks: end-2end Security

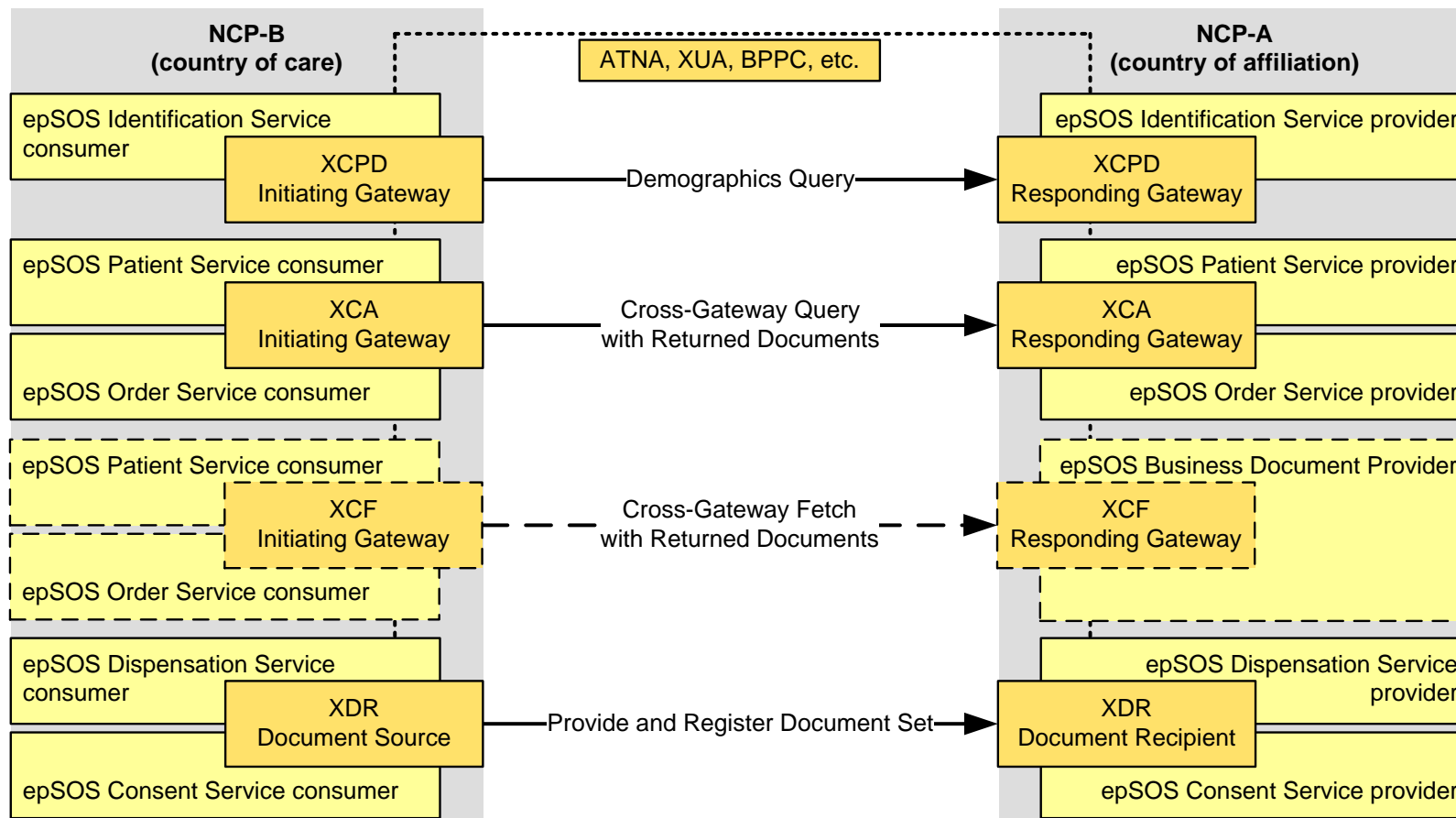


Assure the required level of Security, Integrity, non-Repudiation: luzioni

- VPN based on **SHA-2** Certificates, issued by TLS EU fully compliant CA
- Encrypted and signed messages
- No data stored in NCP
- Audit trail for every transactions



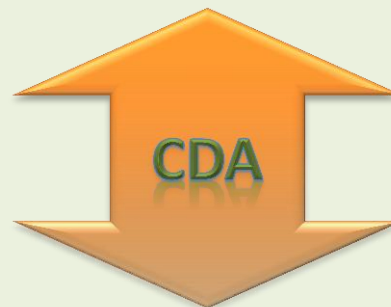
# epSOS reusable blocks: Adoption of IHE profiles





# TRANSLATED / TRANSCODED

epSOS  
"Pivot"



epSOS  
Domain

epSOS  
"PDF"

# ORIGINAL CONTENT

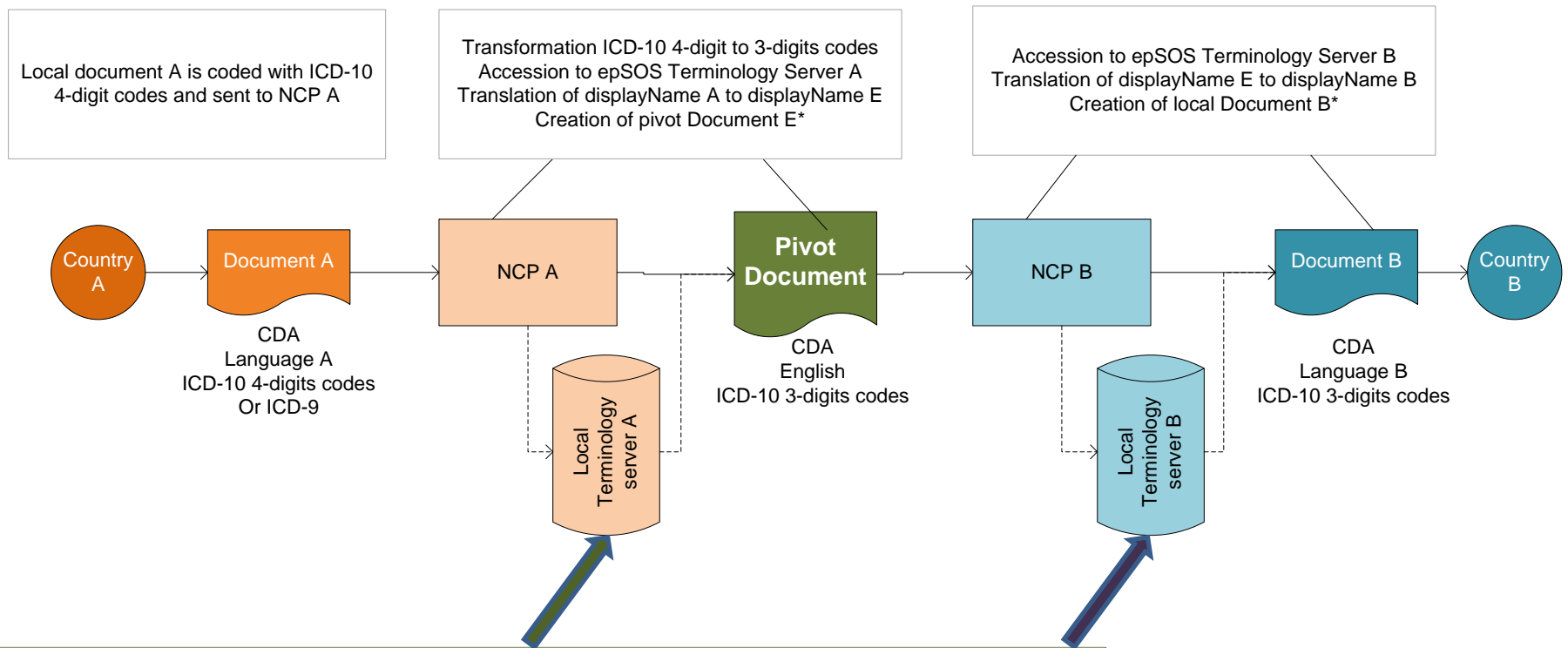
National  
Data

Structured  
Data

PDF



## The document is transformed into Pivot HL7 CDA L3, trascoded and translated



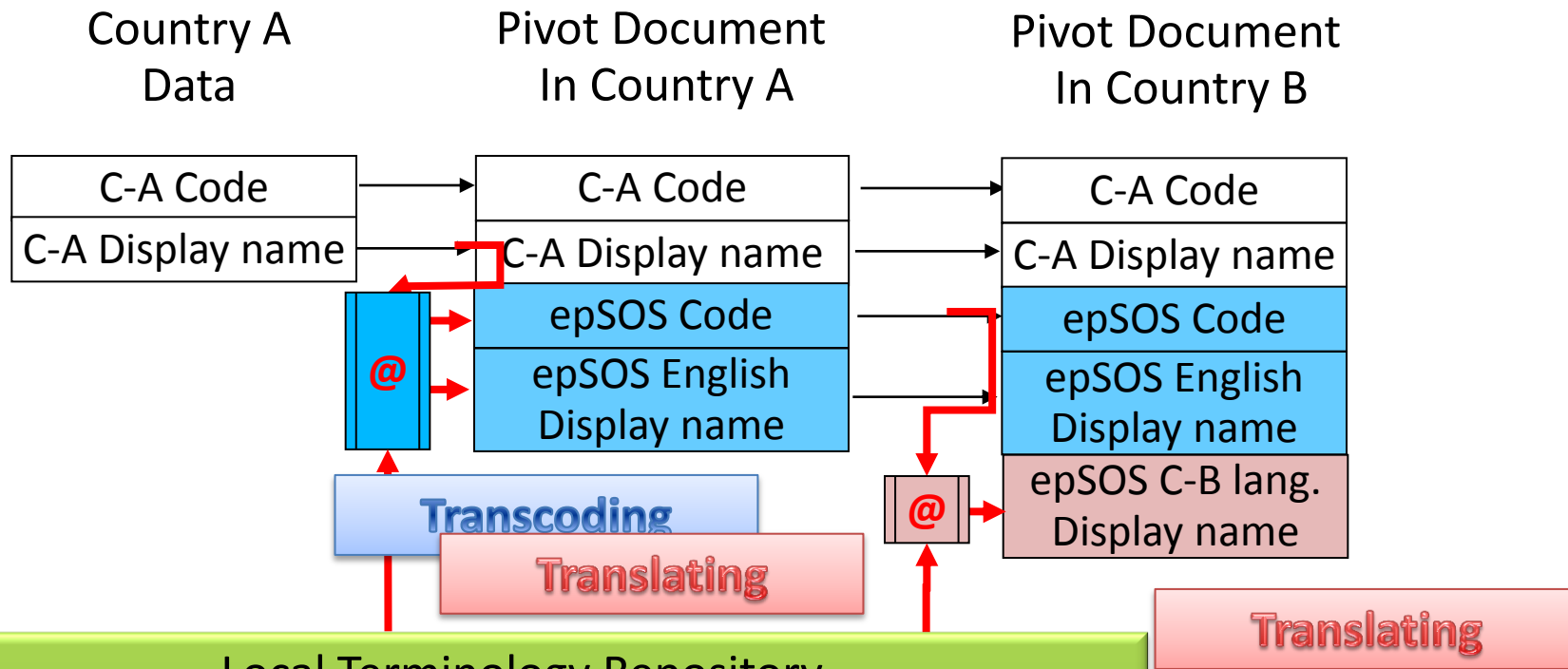
epSOS Central Reference Terminology Service:

Master Value Set Catalogue: [MVC,]

Subset of International Coding Systems (WHO ICD10, ATC;  
SNOMED-CT, EDQM, UCUM, HL7, IHE, ISCO)+

Master Translation/Transcoding Catalogue [MTC]





## Local Terminology Repository

*(based on epSOS Reference Terminology [MVC, MTC])*

*Subset of International Coding Systems (WHO ICD10, ATC;*

*SNOMED-CT, EDQM, UCUM, HL7, IHE, ISCO*

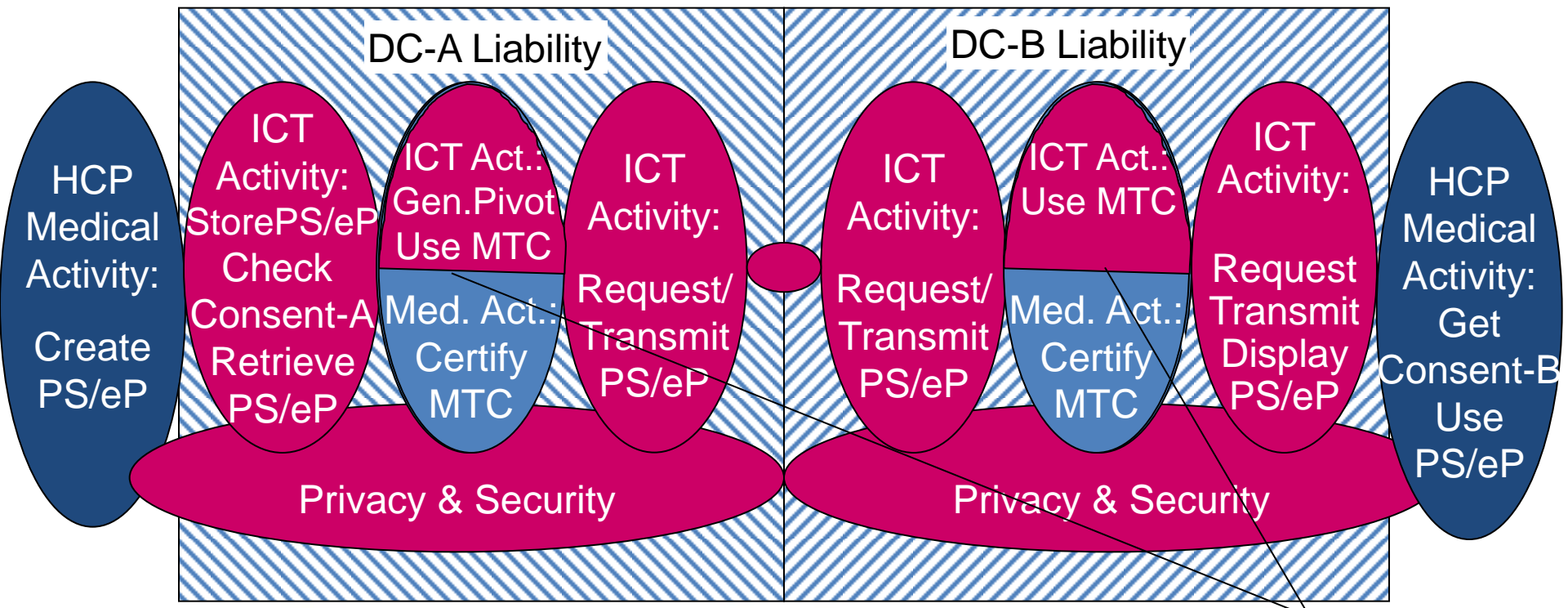
*+ National Translation*





## Liabilities in Document Life Cycle: PS /eP

- No gaps between DC-A / DC-B liability  
Data transformation Liabilities



Medical activities connected to document transformation are performed off-line: they can be carefully checked.  
Only reference to certified tables are automatically performed real time



# epSOS reusable blocks: Testing

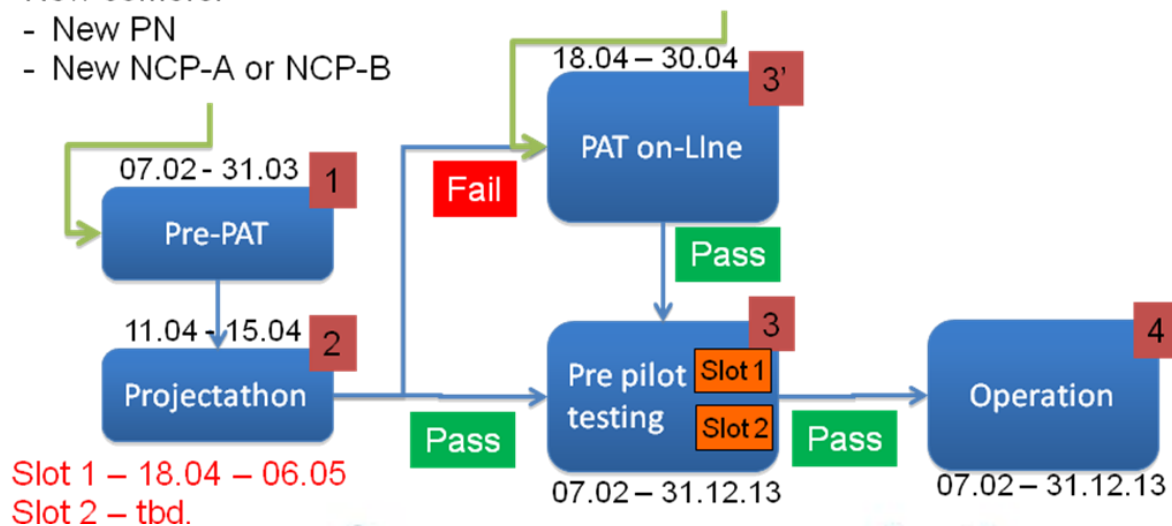


- ❑ Robust testing strategy
- ❑ IHE standard test tools and procedures
- ❑ Two parallel environment: Pre-production / Operation
- ❑ Participation to Connectathon test events to foster sustainability

Major release: newly added service  
Minor release: improvement / consolidation of previous service

New comers:

- New PN
- New NCP-A or NCP-B



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Regione Lombardia  
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