

25/01/2013



eposos

**EUROPEAN PATIENTS
SMART OPEN SERVICES**





From strategies to services

– eHealth as the enabler for cross-border healthcare





- 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 (based on the EIF (European Interoperability Framework)):
 - Legal Interoperability
 - Organisational Interoperability
 - Semantic Interoperability
 - Technical Interoperability

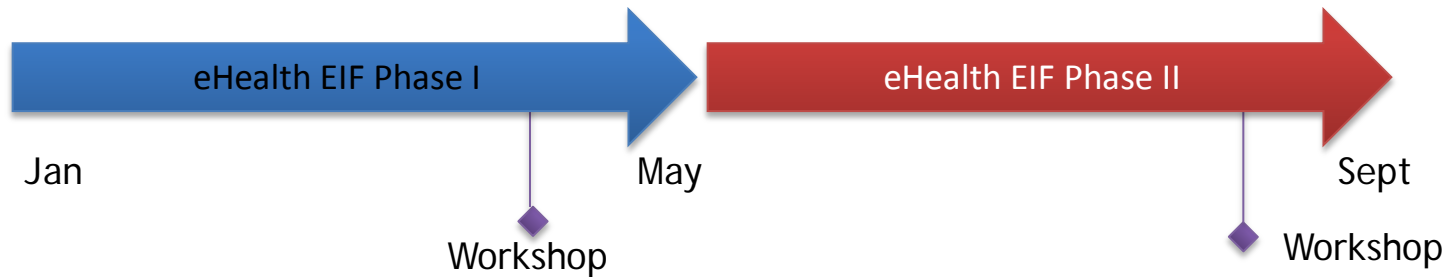




- Provide **concrete cross border services** that ensure safe, secure and efficient medical treatment for citizens when travelling across Europe
- Focus on services close to the patient:
 - **Patient Summary for EU Citizens**
 - Occasional Visit
 - Regular Visit
 - **ePrescribing for EU Citizens**
 - Medication ePrescription
 - Medication eDispensation
 - Build on **existing National eHealth Projects** and use experiences and knowledge from all Member States



Objectives of the ISA eHealth EIF Study



1

Define the eHealth European Interoperability Framework (EIF)

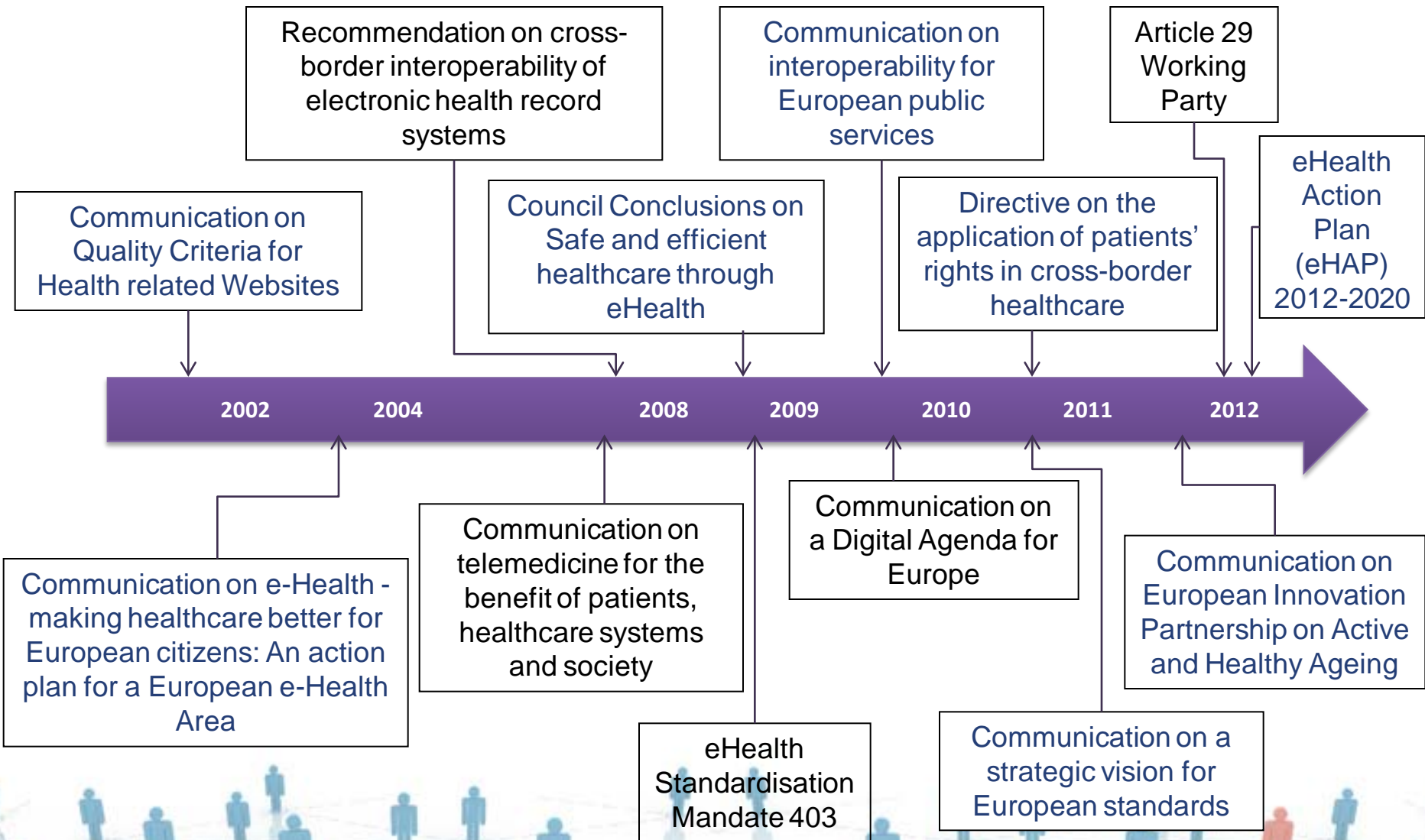
2

Make a recommendation of a first set of ten use cases and their associated profiles (by IHE and Continua)

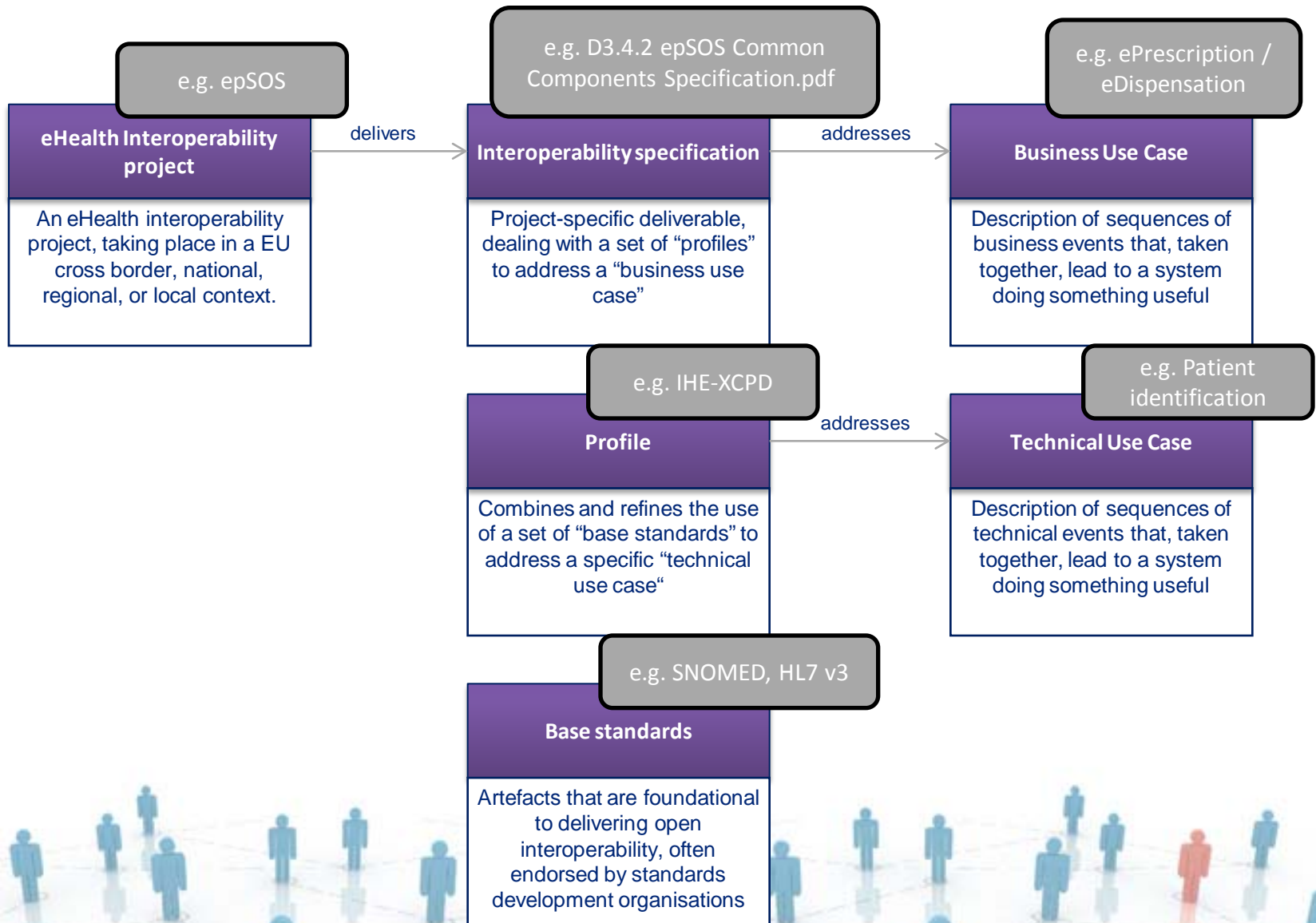
3

Provide recommendations on profiles (or their development process)

Policy Context for epSOS and EU eHealth Interoperability



Introducing the terminology





1

Define the eHealth European Interoperability Framework (EIF)

Top Down

(Generic) EIF



eHealth EIF



Bottom Up

5 MS eHealth
frameworks/specifications

epSOS Specification





*making
justice
faster.eu*



*making
healthcare
better.eu*



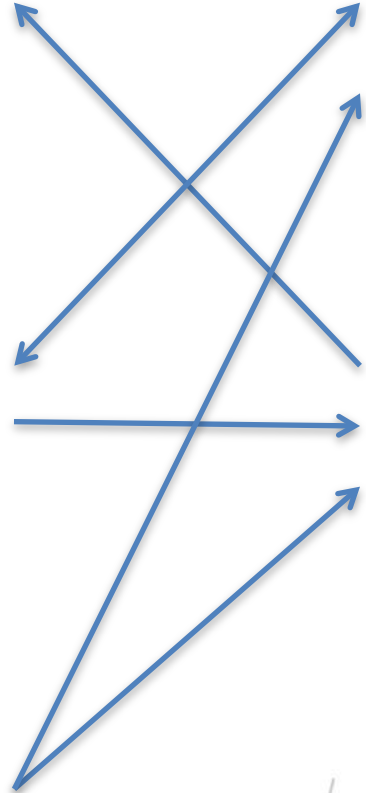
*making
access
smarter.eu*



*making
procurement
better.eu*



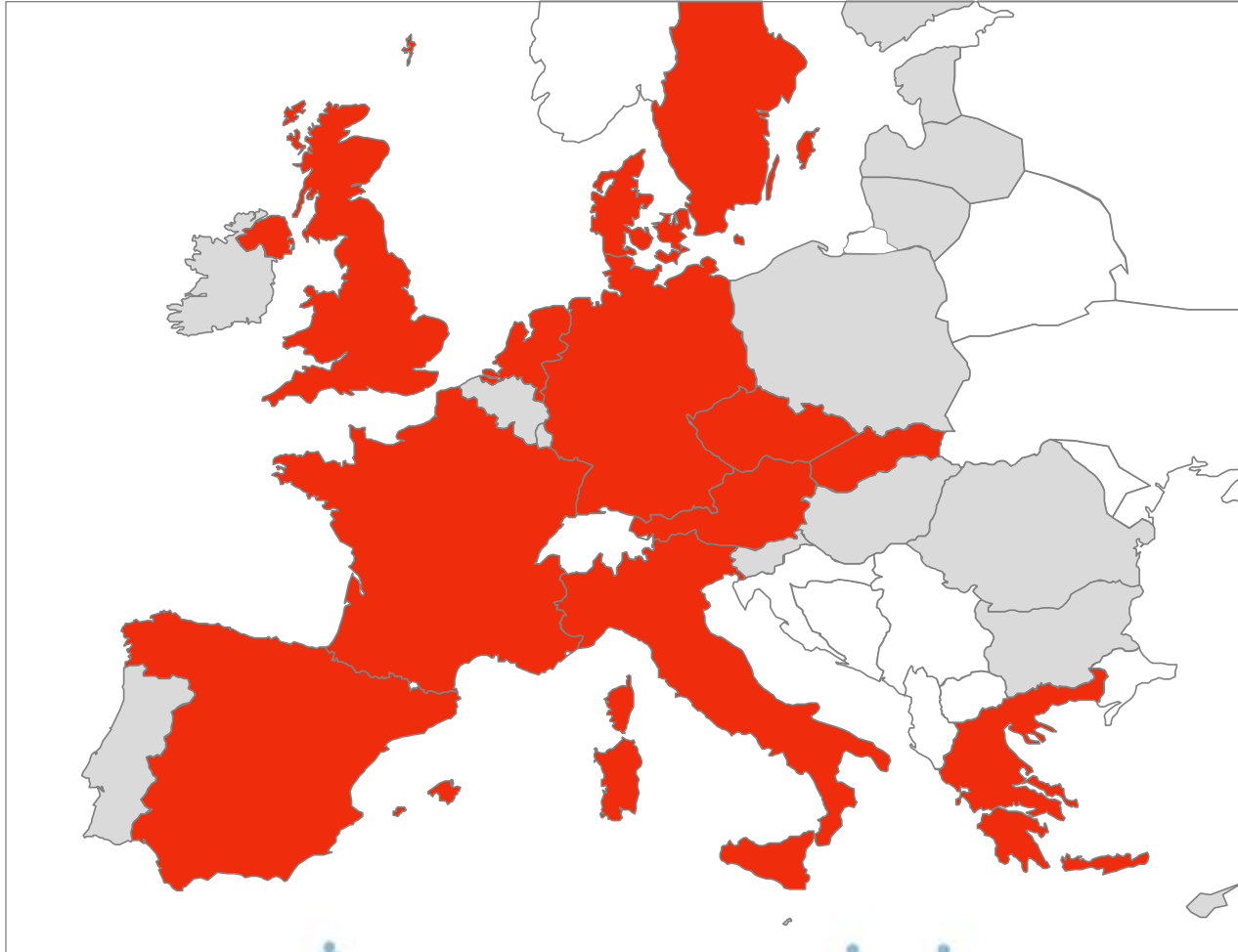
*making
business
easier.eu*





epSOS in short





- Austria
- Czech Republic
- Denmark
- France
- Germany
- Greece
- Italy – Lombardy
- The Netherlands
- Slovakia
- Spain
- Spain – Andalusia
- Spain – Castilla la Mancha
- Spain – Catalonia
- Sweden
- United Kingdom – England
- United Kingdom – Scotland





47 eHealth beneficiaries from 23 member states:
.at, .be, .ch, .cz, .de, .dk, .ee, .gr, .es, .fi, .fr, .hu, .it, .mt,
.nl, .no, .pl, .pt, .se, .sk, .sl, .tr and .uk,
<http://www.epsos.eu/beneficiaries/>

Consisting of

- National ministries of health,
- national/regional competence centers,
- a consortium of industry and
- The Project Management Team

Croatia, Latvia and Luxembourg joining





as per 15.05.2013

3M	<u>Agfa HealthCare</u>	Alert Life Sciences Computing	Apollo Information Technologies
Boston Life Labs	CareCom	<u>Cisco</u>	Conet AG
dbMotion	Dedalus Healthcare Systems Group	Engineering S.p.A	<u>GE Healthcare</u>
<u>Gnomon Informatics</u>	<u>IBM</u>	<u>IHE Europe*</u>	<u>Indra</u>
Insiel S.p.A.	Intel Corporation	Mawell	MediCognos
<u>Microsoft</u>	Netsmart	Oracle	Posam
RISE	Steria	<u>Tiani-Spirit</u>	TrebleM
T-Systems	UBM Medica	X-tention	

Industry Team Steering Group members are underlined

*Industry Team Coordinator,
no member of Industry Team





1. **Consolidate and scale up** piloted epSOS services
2. **Extend and refine** functionalities of the two core services
3. Assess the use of the epSOS patient summary service in the context of the **European emergency (112) service**
4. Comparatively **assess the interoperability approaches** of epSOS services with those in other regions of the world,





2. Extent and refine core services functionalities

- Facilitate the return of *pertinent patient summary update information from Country B* for update of Country A patient summary
- Report back the *medicine newly prescribed* and dispensed in country B to country A
- Include **Planned Health Care**
- Assess the feasibility of integrating with *EHIC processes*
- *Provide access for patients to their patient summary* in a European mobility context



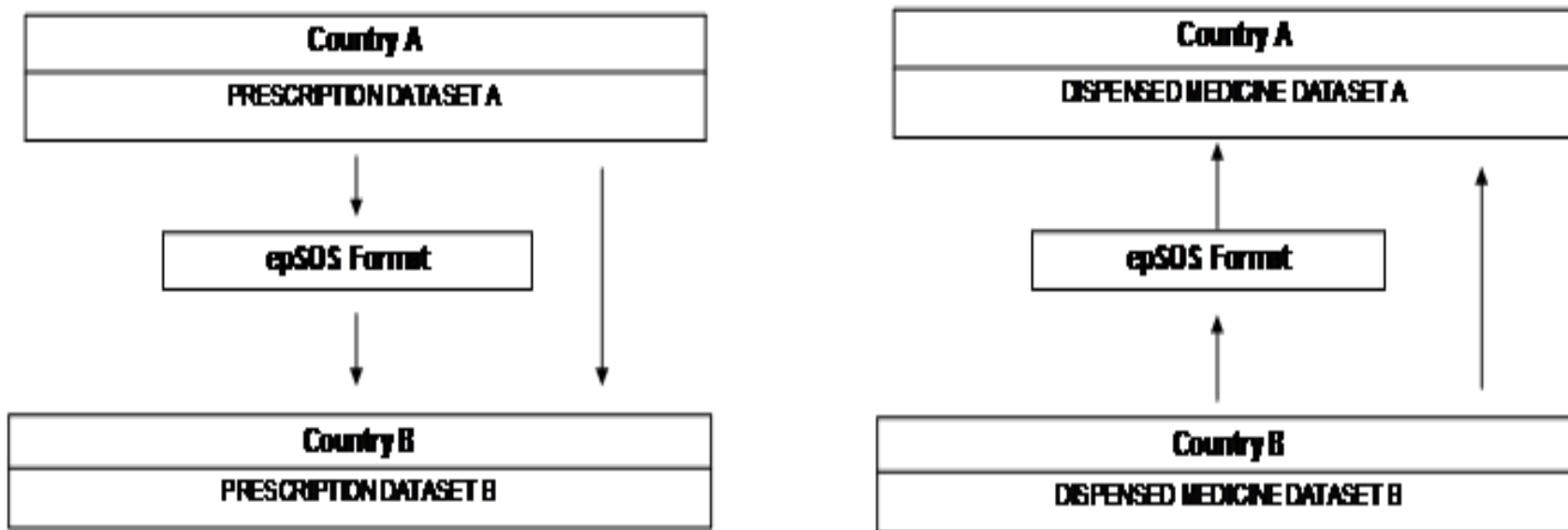


Information/dataset	Contains
Patient Identification	Unique identification for the patient in that country
Patient Personal Information	Full name. Date of birth Gender
Alerts	Allergy description and agent
List of Current Problems	Problems/diagnosis that need treatment and/or follow up by a HCP
Medication Summary	Current medications
Medical Devices and Implants	Patient's implanted and external medical devices and equipment that their health status depends on.
Surgical Procedures	Surgical Procedures prior to the past six months
Country	Name of Country A
Date of creation of PS	Data on which PS was generated
Date of last updated	Data on which PS was updated
Author/Nature of the patient summary	highlight if the data is collected manually by an HCP or is collected automatically from different sources (eg: hospital doctor repository, GPs...etc) through predetermined clinical rules
Legal Entity	At least an author organization (HCPO) shall be listed. In case there is not HCPO identified at least a HCP shall be listed
Preferred healthcare provider	Name, telephone number + e-mail



- **Minimum and maximum datasets to interchange in the interoperability scenario for the Use cases**

- **Two different datasets: prescription and dispensed medicine**





- **Three different blocks in each dataset**
 - **Patient Identification**
 - **HCP identification**
 - **Medicine: prescription and dispensed medicine data**

Prescription ID

Prescription Item ID

Country B Single concept

- Active ingredient
- Strength of the medicinal product
- Medicinal product package
- Pharmaceutical dose form

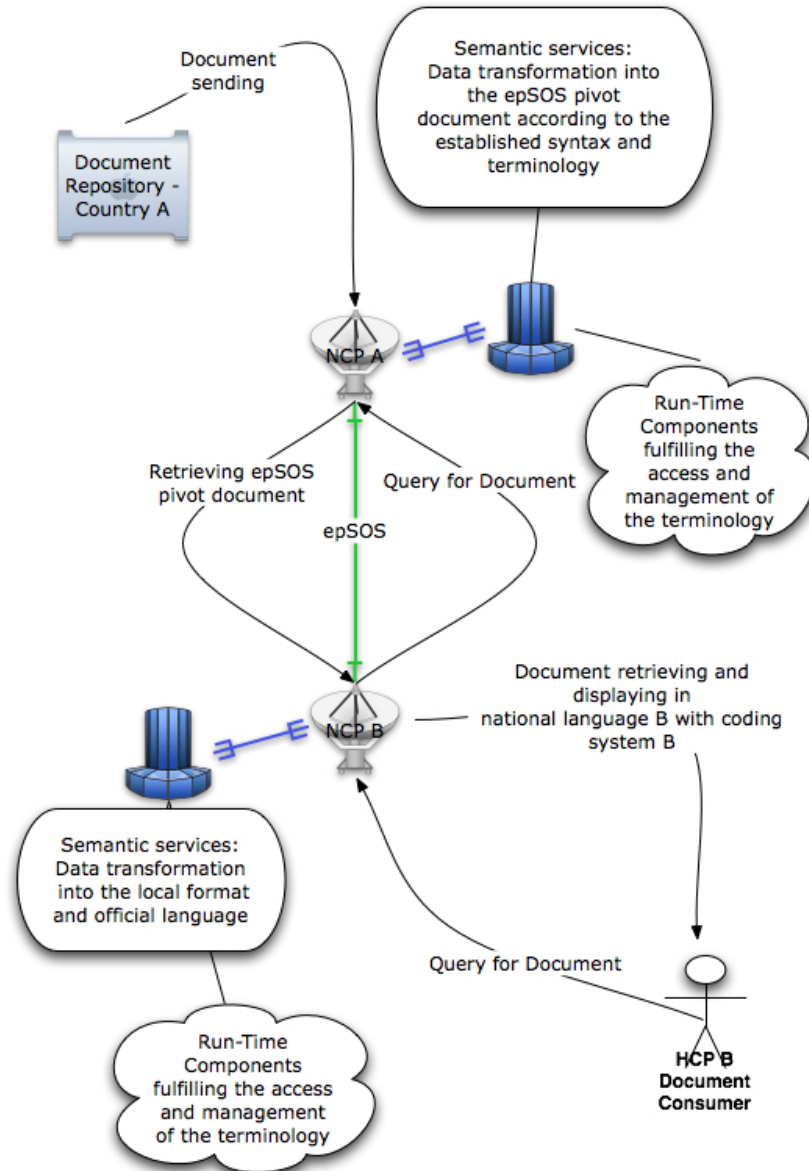
Brand name of the medicinal product prescribed in Country A

Number of packages

Posology

Date of issue of the prescription







Medical Treatment and Administration

(Business Processes)

Document Sharing

(Business Architecture)

Security and Privacy

(Security Architecture)

Connectivity

(Communication Architecture)





Technical Domain Overview

(see full "epSOS General Technical presentation" for details)





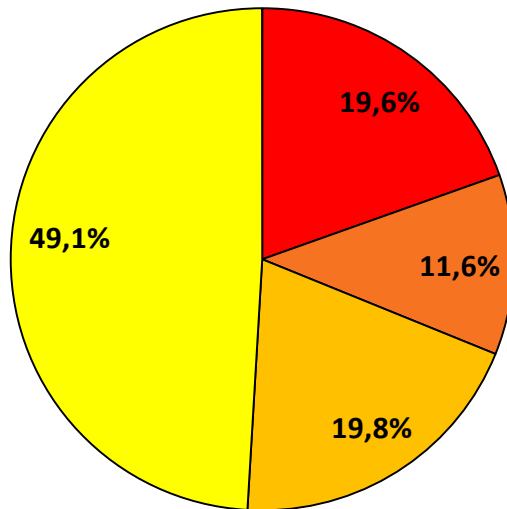
Code sys	SNOMED-CT	ICD-10	EDQM	ATC	LOINC	HL7	IHE	ISO	ISCO	UCUM	
<i>Value set</i>	AdverseEventType ReactionAllergy AllergenNoDrugs ResolutionOutcome BloodGroup Severity CodeNoMedication SocialHistory CodeProb statusCode MedicalDevices UnknownInformation Procedures Vaccinations IllnessesandDisorders		DoseForm RoutesofAdministration Package ActiveIngredient		BloodPressure PregnancyInformation DocumentTitle Sections	ActCode PersonalRelation.RoleType Confidentiality RoleClass EntityNamePartQualifier Telecommunic.AddressUse AdministrativeGender TimingEvent NullFavor URL Scheme	ActCode RoleCode	Country Language	HealthcareProfessionalRole	Units	
<i>Term: Status:</i>	500 terms	1700	600	5600	20		130	10	20	10	40





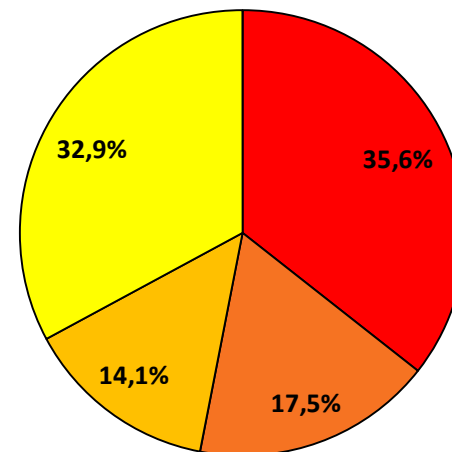
Level of Coded elements, patient Summary, average all countries

2011



■ Coded
■ Partially Coded
■ Free text
■ No/Not Applicable

2013



■ Coded
■ Partially Coded
■ Free text
■ No/Not Applicable




Search for a Patient




physician the
Organisation:
MemberState
Rolle: medical doctor
[abmelden](#)

Patient suchen
Patientendaten
ändern
Patienteneinwilligung

International Patient suchen

Staat: 

Familienname:

Vorname:

Patienten Id:

[rücksetzen](#) [suchen](#)



Patientenliste

[|<](#) [<](#) 1 / 1 [>](#) [>|](#) Einträge pro Seite sortieren



Zárubová Nina
Bořivojova 123, 12000, Kladno, Česká republika
01.02.2001

[Details](#)

Confirm



Spirit EHR

http://ncp-at.8181/SpiritEhrPortal/#ehrPatientSearch

Google



SpiritEHR

electronic Health Record

Deutsch - Österreich



„There is Spirit in everyone, but it needs to be free!“



physician the
Organisation:
MemberState
Rolle: medical doctor

abmelden

Patient suchen
Patientendaten
ändern
Patienteneinwilligung

Verschreibungen
Patient Summary

Kontakt - Info - Hilfe
Einstellungen

International Patient suchen

Staat:



Tschechische Republik

Familienname:

Zárubová

Vorname:

Nina

Patienten Id:

6212122627

rücksetzen

suchen

ENTSCHEIDUNG ?



Befinden Sie sich in einem Behandlungsverhältnis mit dem ausgewählten Patienten?

Ja

Nein

Notfall

1 / 1 Einträge pro Seite 5 sortieren Nachname aufsteigend



Zárubová Nina

Bořivojova 123, 12000, Kladno, Česká republika
01.02.2001

Details

Demographics



Spirit EHR

http://ncp-at:8181/SpiritEhrPortal/#ehrPatientDetail

Google

Deutsch - Österreich



electronic Health Record

„There is Spirit in everyone, but it needs to be free!“



physician the
Organisation:
MemberState
Rolle: medical doctor

[abmelden](#)



Zárubová Nina
Bořivojova 123
Kladno 12000
February 1, 2001

[Patient suchen](#)
[Patientendaten](#)
[ändern](#)
[Patienteneinwilligung](#)

[Verschreibungen](#)
[Patient Summary](#)

[Kontakt - Info - Hilfe](#)
[Einstellungen](#)

Patientendaten

Familienname: Zárubová
Vorname: Nina
Zweiter Vorname:
Titel:
Geschlecht: weiblich
Geburtsdatum: 01.02.2001
Straße: Bořivojova 123
Wohnort: Kladno
Staat: Česká republika
PLZ: 12000
Bundesland:
Telefon privat:
Telefon geschäftlich:

eMail privat:
eMail geschäftlich:
Geburtsort:
Staatsbürgerschaft:
Nationalität:
Kontodaten:
Sozialversicherungsnummer:
Führerscheinnummer:
Sterbetag:
letzte Aktualisierung: -

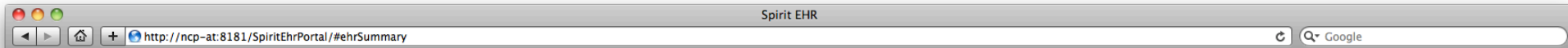


Patienten Id Type	Patienten Id	Domäne	Domäne Type	Namespace	EhrPIDType
RRI	6212122627	CZ XDS Domain	ISO		778 (1100001010)

[Bericht drucken](#)

[Label drucken](#)

CDA Level 3 and 1 Documents



SpiritEHR

electronic Health Record

Deutsch - Österreich



„There is Spirit in everyone, but it needs to be free!“



physician the
Organisation:
MemberState
Rolle: medical doctor

[abmelden](#)



Zárubová Nina
Bořivojova 123
Kladno 12000
February 1, 2001

[Patient suchen](#)
[Patientendaten ändern](#)
[Patienteneinwilligung](#)

[Verschreibungen](#)
[Patient Summary](#)

[Kontakt - Info - Hilfe](#)
[Einstellungen](#)

Patienten Kurzakte

Dokumentenliste

[|<](#) [<](#) 1 / 1 [>](#) [>|](#) Einträge pro Seite sortieren

[exportieren](#)



Patient Summary

Level 3 document.
Czech Republic

[Details](#)



Patient Summary

Level 1 with embedded PDF document.
Czech Republic

[Details](#)



Sök patient

Land

Danmark

Unik
identifierare

2

Ange personens Social Security Number (CPR-nummer) med 10 siffror utan bindestreck eller blanksteg
Tillgängliga testpatienter: 2601010001 2601010002 2601010003 2512484916

Sök

Förnamn

Efternamn

Kön

Födelsedatum

Id

No Records Found

Danish Portal



DK Portal



Logout

Vælg patientens land

Danmark  Sverige  Spanien  Tjekkiet 

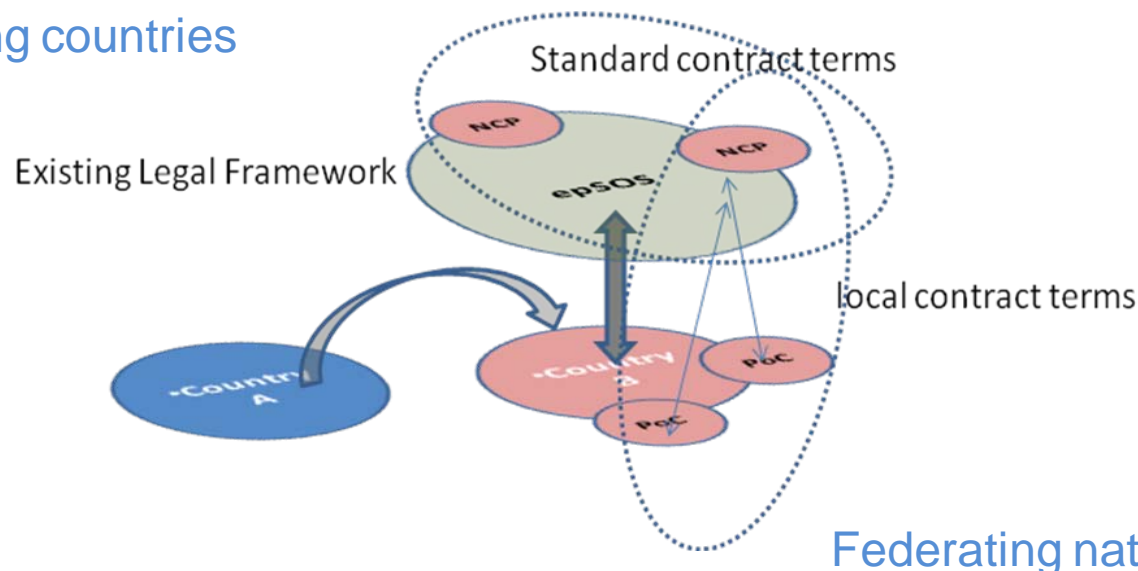
Italien  Østrig  Grækenland  Frankrig 

Gå till "<https://test01.epsos.netic.dk:8544/epsos>"





Federating countries



A country becomes a member of the epSOS trusted domain.....

If a health care provider organisation (HCPO) demonstrates conformance to epSOS requirements then it may offer the epSOS services

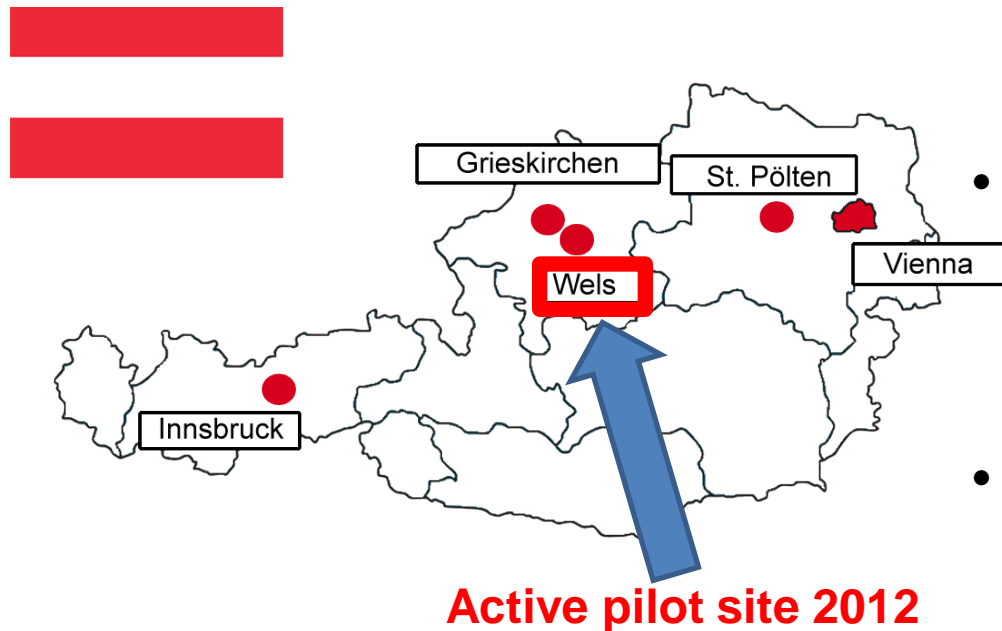
The HCPO is accountable to the NCP

The NCP is accountable to the epSOS community





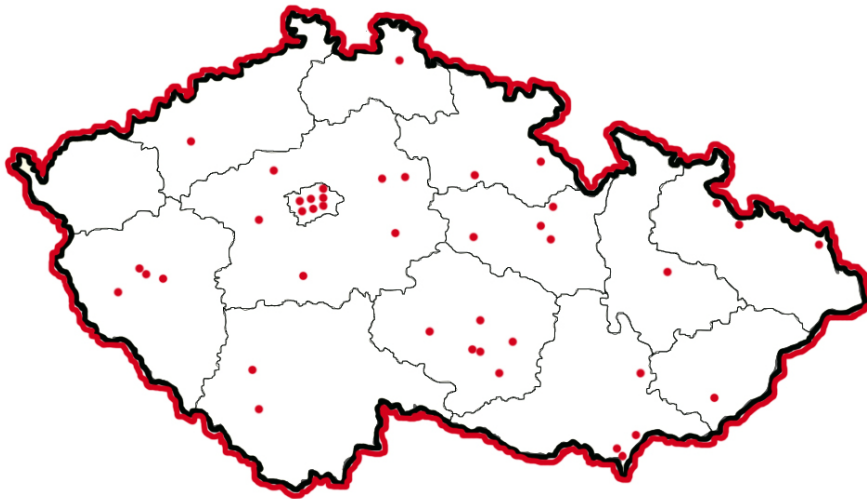
Pilot Site Candidates: Austria



- **Involved regions:** five cities - Innsbruck, Grieskirchen, St. Pölten, Vienna and Wels
- **Coverage:** Patient Summary (acting as Country A & B) in Innsbruck, St. Pölten and Vienna. eDispensation (acting as Country A) in Grieskirchen and Wels
- **Acting as Country A:** Estimated annual outwards patient flow: approx. 7,200
- **Acting as Country B:** 4 hospitals, 136 GPs and specialists



Pilot Site Candidates: Czech Republic

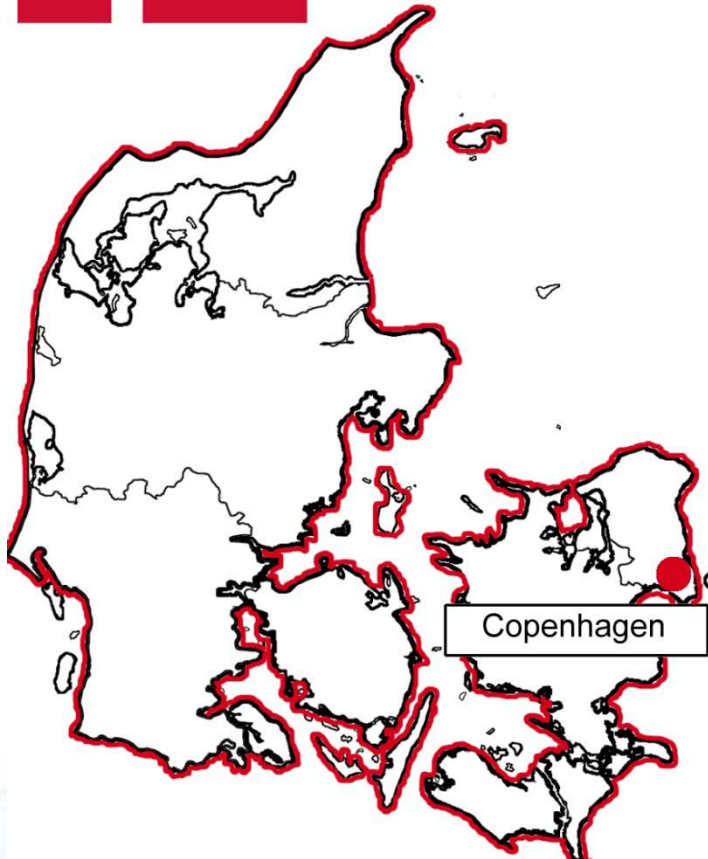
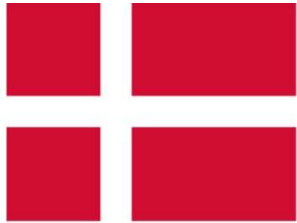


- **Involved regions:** the whole country
- **Coverage:** Patient Summary, acting as Country A & B
- **Acting as Country A:** over one million patients with an electronic health record. Estimated annual outwards patient flow to epSOS countries: 7,300
- **Acting as Country B:** 10,000 HCPs within 6,000 HCOs, of which 50 are hospitals (see map), scattered all over the country





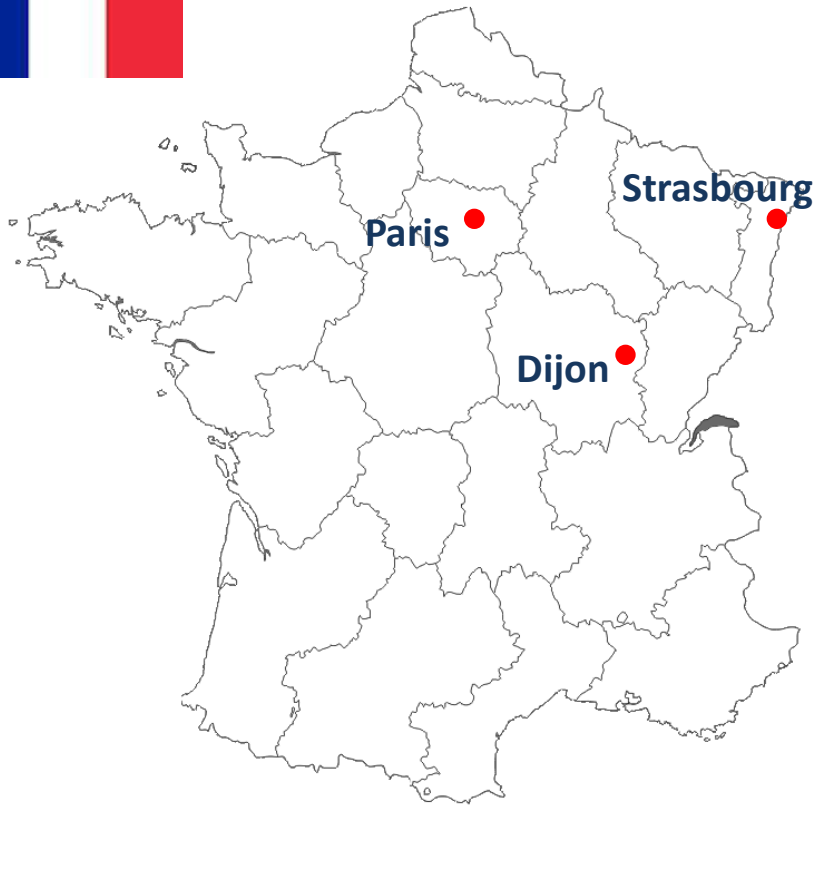
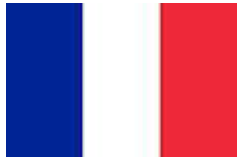
Pilot Site Candidates: Denmark



- **Involved regions:** the whole country, and in particular Copenhagen
- **Coverage:** Patient Summary (acting as Country A), ePrescription (acting as Country A & B) and eDispensation (acting as Country A & B)
- **Acting as Country A:** eP for the entire country. Estimated outwards patient flow: approx. 8,000
- **Acting as Country B:** 3,100 GPs and specialists, 60 hospitals, eDispensation at 2 pharmacies in Copenhagen



Pilot Site Candidates: France



Involved regions: 3 universities – Bourgogne Dijon, Paris Ouest Nanterre La Défense, Strasbourg

Coverage: Patient Summary (acting as Country A & B) for incoming and outgoing Erasmus students at these universities.

Acting as Country A: 300 French students from the 3 universities participated in the Erasmus Programme 2006/07 (outgoing)

Acting as Country B: the 3 universities received more than 300 incoming Erasmus students in 2006/07





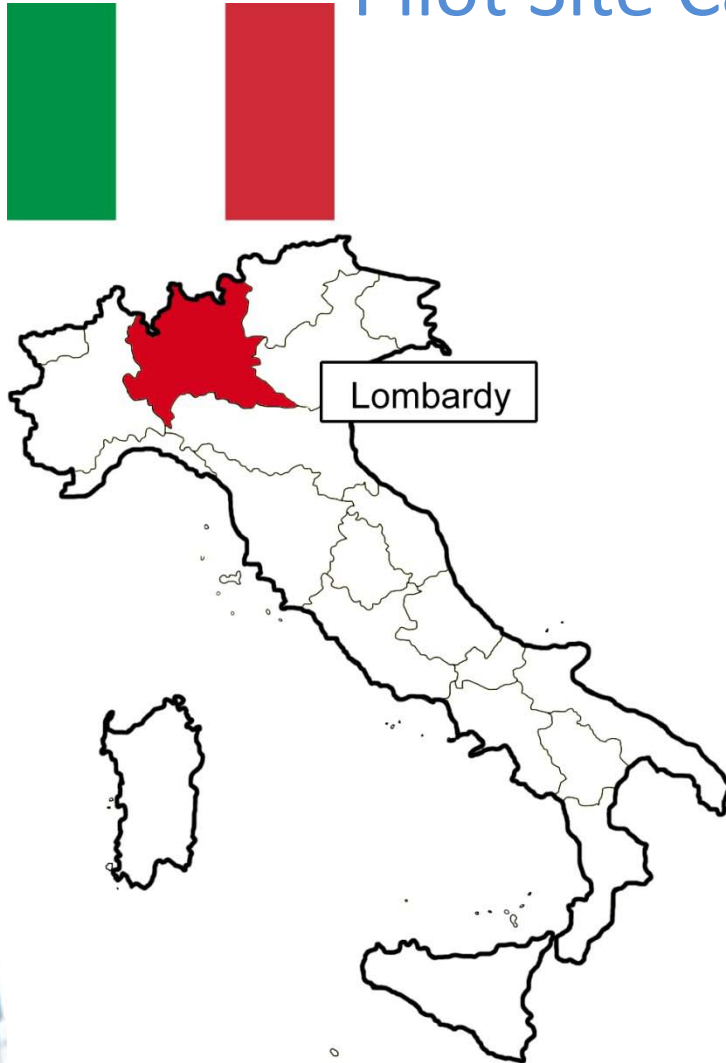
Pilot Site Candidates: Greece



- **Involved regions:** two cities – Athens and Thessaloniki
- **Coverage:** Patient Summary and ePrescription/eDispensation, acting as Country B
- **Acting as Country B:** estimated HCOs/HCPs involved: 15 pharmacies, 2 hospitals, 20 HCPs. Total annual tourist flow (inwards): over 6 million visitors



Pilot Site Candidates: Italy



- **Involved regions:** Lombardy, in particular the provinces of Pavia and Brescia
- **Coverage:** Patient Summary (acting as Country A & B) and ePrescription/ eDispensation (acting as Country A)
- **Acting as Country A:** Acting as sender of PS in the provinces of Pavia and Brescia. The whole region Lombardy acting as sender of eP information and receiver of dispensed medicine information
- **Acting as Country B:** Acting as receiver of PS in the Garda Lake area (Brescia)



Pilot Site Candidates: Spain



- **Involved regions:** Valencia & Balearic Islands (currently in operation) + Andalusia, Castile - La Mancha, Catalonia aiming to participate during 2013.
- **Coverage:** Patient Summary as country A&B + eDispensation (ePrescription as country B).
- **Acting as PS Country A:** citizens with PS for the entire population of Valencia (2012- in operation). Balearic Islands, Castile - La Mancha and Catalonia will intend to put their population available during 2013.
- **Acting as PS Country B:** 50 centers (hospital and surgeries) to Valencia and Balearic islands able to see foreign patients with PS (2012 – in operation) More centers can be added from Castile – La Mancha and Catalonia during 2013.
- **Acting as eD - Country B:** During 2013 Andalucía and Catalonia aim to integrate their pharmacies to be able to give epSOS dispensations.





Pilot Site Candidates: Sweden



- **Involved regions:** the whole country, and in particular Östergötland, Scania, Stockholm and Norrbotten
- **Coverage:** Patient Summary and ePrescription/Dispensation, acting as Country A & B
- **Acting as Country A:** eP for the entire country. Acting as sender of PS in Östergötland and Norrbotten
- **Acting as Country B:** acting as receiver of PS in Östergötland and Norrbotten. eP/eD at selected pharmacies in Stockholm, Scania and Norrbotten



Pilots approved by the PSB

	Country A epSOS Patient Summary					
Country B	Austria	Czech	France	Italy	Spain	Denmark
Austria		x	x	x	x	x
Czech	x		x	x	x	x
France	x	x		x	x	x
Italy	x	x	x		x	x
Spain	x	x	x	x		x

epSOS e-prescription		
	Country A	
Country B	Denmark	Italy
Denmark		x
Greece	x	x



Active epSOS Pilot sites



* status 11.07.2012



Visit www.epsos.eu/poc_database to find piloting Points of Care!



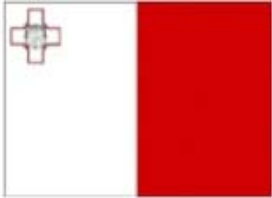


Pilot Candidates for 2013, 16 e.g





Pilot Site Candidate: Malta



- **Involved regions:** Malta & Gozo
- **Coverage:** Patient Summary, acting as Country A & B
 - **Acting as Country A:** Sending of PS for residents that have received inpatient treatment at Mater Dei Hospital (the national acute hospital)
 - **Acting as Country B:** Receipt of PS at the A&E Department at Mater Dei Hospital (main A&E centre in the country)





Pilot Site Candidate: Portugal



- **Involved regions:** the continental part of the country
- **Coverage:** Patient Summary, acting as Country A & B
- **Acting as Country A:** starting with patients from North, Alentejo and Algarve Regions in the Q1 2013, proceeding with the remaining regions during Q2.
- **Acting as Country B:** estimated HCOs/HCPs involved: 60 Hospitals, 2000 Health Professionals, scattered all over the country . Total annual tourist flow (inwards): over 7 million visitors.





Pilot Site Candidate: Turkey



- **Services:** Patient Summary, acting as Country A & B
- **New Services:** Interested in Health Care Encounter Report & Patient Access
 - **Acting as Country A:** PS involvement possible for the whole population, based on the national infrastructure; subject to patient consents of course
 - **Acting as Country B:** Receipt of PS in Kanuni Sultan Süleyman, Atatürk and Katip Çelebi Hospitals in İstanbul, Ankara and İzmir respectively. Antalya is still in plans too.
 - **Operation:** In early 2013





Pilot Site Candidate: Estonia



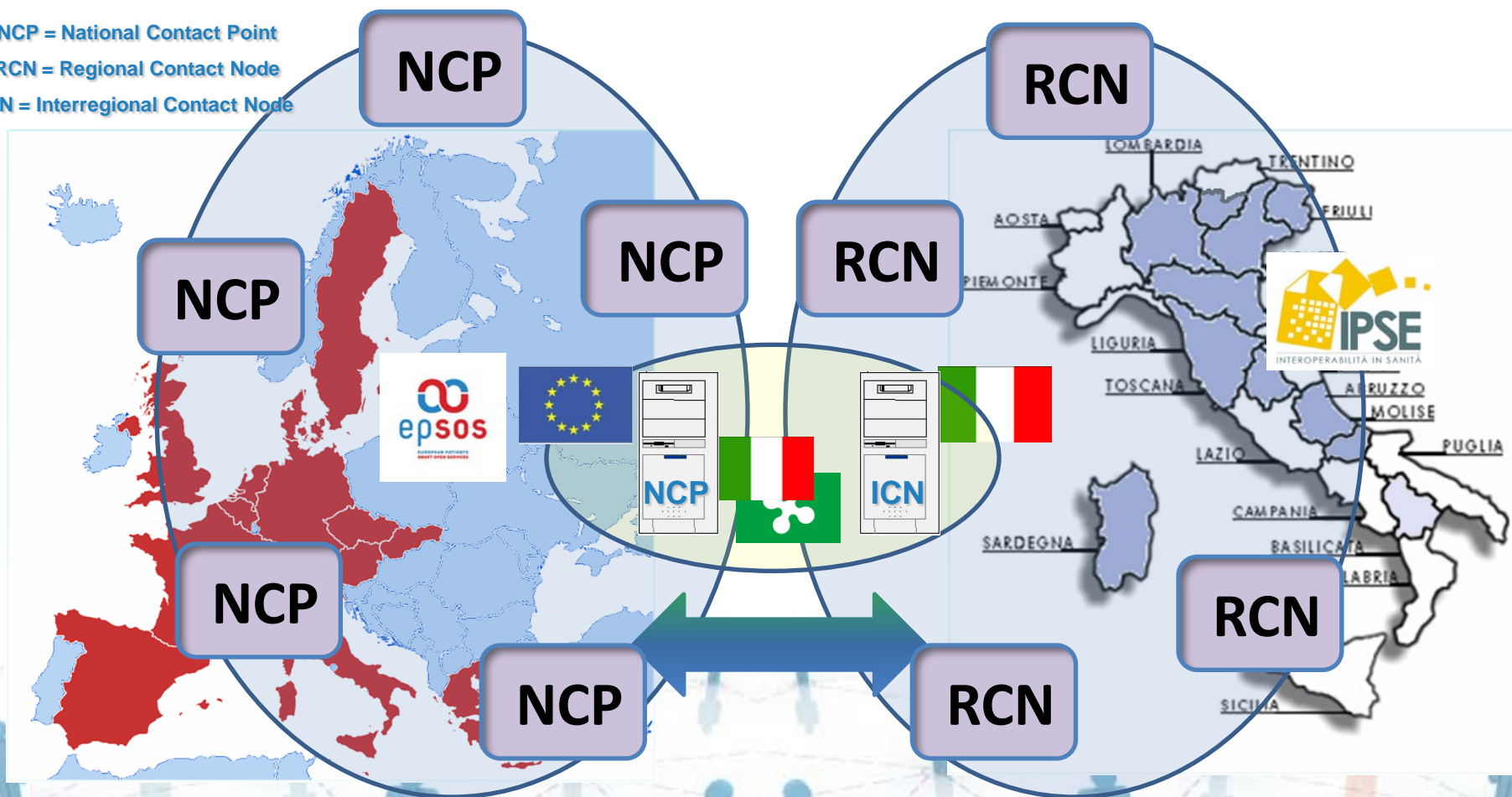
- **Services:** Patient Summary, acting as Country A & B; eP is still under question.
- **Acting as Country A:** based on the national infrastructure, estimated number of patients with PS is 100 000, however PS as a document does not yet contain all the required information.
- **Acting as Country B:** Receipt of PS in selected GP centers and possibly also in some private clinics in Tallinn.
- **Operation:** 2013

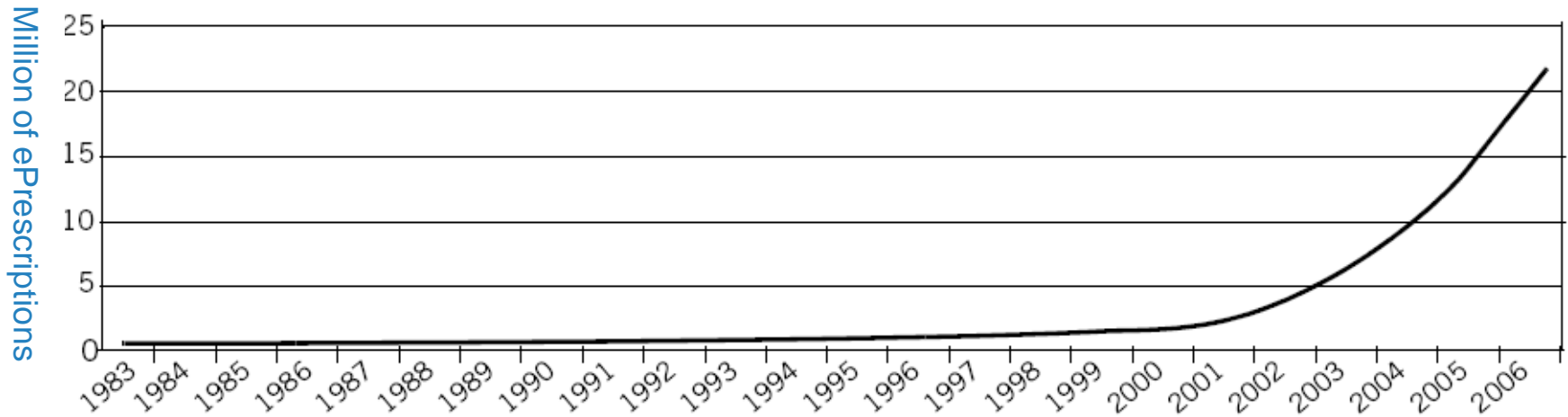




epSOS and IPSE: to implement PS/eP interoperability among the Italian Regions in an epSOS compatible way

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





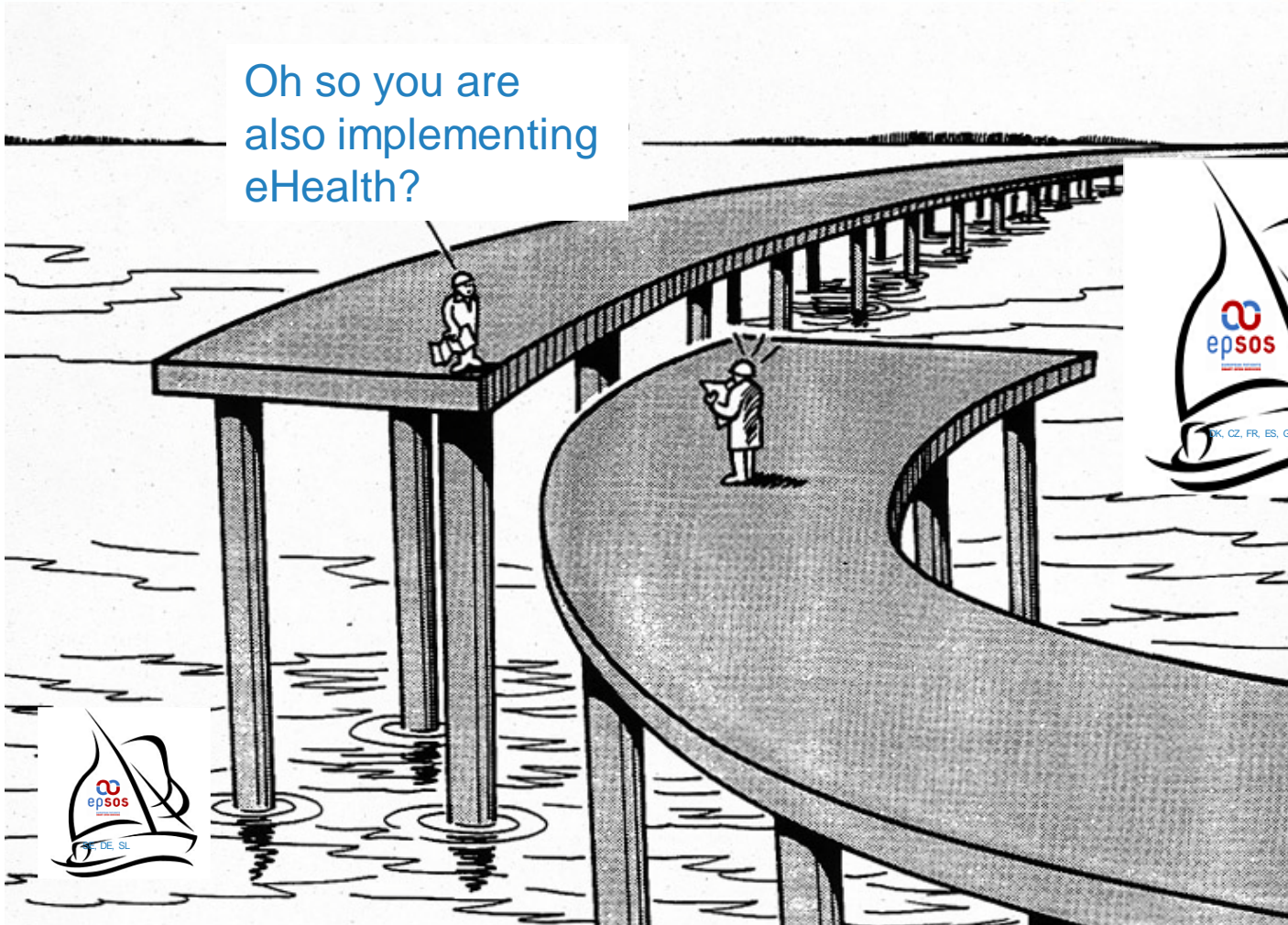
- *Since the first ePrescriptions were transferred in 1983, there has been many pioneer initiatives around the country*
- *In 1997 there was a consensus reached*
- *At the end of in 2006, 1.9 million ePrescriptions were sent per month Approximately representing 60% of all new prescriptions*



Cooperation is Key



Oh so you are
also implementing
eHealth?



base from Mikael Erlandsson





Thank you for your
attention!
fredrik.linden@gov.se

