



Information Society
Technologies

Status and strategies on EHR and bioinformatics in Europe

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EU Commission



European Commission



Overview

- Rationale
- Research in the area of EHR
- Roadmap up to the 2007 Recommendation
- Strategy and instruments of implementation of eHealth Action plan
- Discussion



Vision: Continuity of care



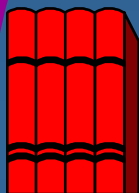
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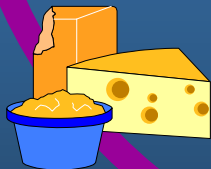
HOSPITAL



MEDICAL
DOCUMENTATION



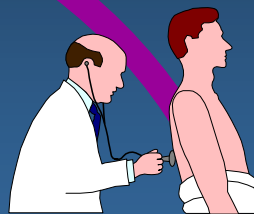
ARCHIVES



DIETETICS



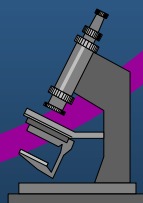
PATIENT ADMISSION



DOCTOR



PHARMACY



LABORATORIES



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20 Years of eHealth R&D Context

PAST 10 years (1991-2002)

NEXT 10 years (2003-2014)

'89-'91

'91-'94

'94-'98

'98-'02

'02-'06 **Research activities (200 Mil. €)**

Computer Applications for Doctors
Telemedicine systems and services

Regional Health Info Networks
Home-care systems
Personal Health Systems

Biomedical Informatics
- informatics for Genomic Medicine
- Virtual Physiological Human

-HealthGrid

Personal health systems (Wearable & Implantable)
based on new biosensors
Decision Support Syst./Patient Safety



Budget
20M €

Budget
100M €

Budget
140M €

Budget
200M €

Projects
30

Projects
63

Projects
158

Projects
125

Results
Feasibility Study

Results
AIM Community

Results
1st batch of Products

Results
EU Health Telematics Industry

Currently preparing activities for '06-'10





20 Years of eHealth R&D Context

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Computer
Applications for
Doctors

Telemedicine systems
and services

Regional Health Info
Networks

Home-care systems

Personal Health
Systems

Many good results are

- Not known /understood

- Not assessed

- Have no favorable conditions (legal,
organisation, leadership, industrial issues)

Support to deployment

I2010 (eEurope) initiative

**eHealth COMMUNICATION &
Action Plan**

COMM (2004) 356

Budget

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Results

**Feasibility
Study**



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Results

**AIM
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Results

**1st batch of
Products**

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Results

**EU Health
Telematics
Industry**



The current situation

2005	The need
<p>Increase in life-expectancy</p> <p>Ageing of population</p> <p>Follow-up of patients during lifetime</p>	<p>An accessible electronic medical record; unique identifier of patients and Health Professionals; Health cards</p>
<p>Increasing dimension of data and multiplicity of data</p>	<p>Medical record must be evolving; availability of broadband</p>
<p>Mobility of patients across borders</p>	<p>Shared information; interoperability of EHR; legal framework in place</p>
<p>Multidisciplinary Decision Support systems, epidemiology, clinical research</p>	<p>Integration of data; long term availability of knowledge; grid technology</p>
<p>Implementation cost</p>	<p>Research, implementation economically viable</p>



Benefits to be gained from achieving interoperable eHealth applications



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- Providers could make better informed clinical decisions more efficiently, adverse events would be reduced and unnecessary procedures could be avoided;
- Administrators could make more efficient and effective use of resources;
- Researchers could more effectively analyse disease pathways and the effectiveness of various interventions to help inform health policy and practice;
- Policy makers and finance providers could more effectively direct their funding towards interventions that produce the most effective health outcomes; and
- Patients – particularly those with chronic diseases – would benefit from improved health outcomes, better access to their own health information, and less complex interactions with providers across the healthcare sector



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Cost benefits

- In US net savings from national implementation of fully standardised interoperability between providers and five other types of organisations could yield \$77.8 billion annually, or approximately 5% of the \$1.7 trillion spent on U.S. health care in 2003.
- In Australia the net savings foreseen after the implementation of the programme HealthConnect could be 500 mil. \$
- In Canada, Canada Health Infoway is expected to induce saving as high as 5 bill. \$ annually

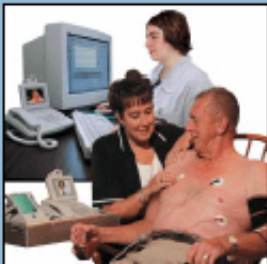




The Benefits of Electronic Health Records and *Infoway's* Priorities

Infoway Electronic Health Record

Demographics
Diagnostic Images
Laboratory Results
Drug Profile
Clinical Reports
Immunizations
Telehealth



Benefits = \$30 million per year¹

- Medical Transportation Savings = \$30 m/yr

Access

- Availability of Services
- Ability to Access Services
- Consumer Participation

Benefits = \$3.4 billion per year²

- Inpatient ADE = \$1.6 b/yr
- Ambulatory ADE = \$1.4 b/yr
- Post Discharge ADE = \$0.4 b/yr

Quality

- Safety
- Effectiveness
- Appropriateness

Benefits = \$1.6 billion per year^{2,3}

- Diagnostic Imaging Efficiencies = \$1.1 b/yr
- Laboratory Test Efficiencies = \$0.5 b/yr

Productivity

- Efficiency
- Care Coordination

Sources

1. Health Canada – Telehealth Evaluation
2. Booz Allen Hamilton – EHR ROI Model
3. Courtyard Group – DI ROI Model



Communication: COM(2004) 356 final
'e-Health – making healthcare better for European citizens: An
action plan for a European e-Health Area'

e-Health action plan: main areas of activity

- National/regional roadmaps (MS, 2005)
- Common approaches for patient identifier (EC+MS, 2006)
- Interoperability standards for EHR and messaging (EC+MS,2006)
 - **TMA Bridge, I2Health, Semantic Health, RIDE, Semantic Mining...**
- Boosting investments in eHealth (MS, 2007)
- Conformity testing and accreditation (MS 2007)
- Deployment of health information networks (MS, 2004-2008)
- Legal framework, certification of qualifications (EC+MS,2009)



Roadmap up to the 2007 Recommendation



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- To recommend a set of guidelines on eHealth interoperability and assess what aspects of interoperability are the most urgent to establish (e.g., covering issues like Electronic Health Records, health messaging and patient identifiers);
- To develop and therefore set mechanisms for assessing good practice in eHealth interoperability;
- To assess rapid international (US, Canada, Australia, and so on) developments in eHealth interoperability in order to strengthen the competitiveness of EU industry in the eHealth field;
- To reinforce appropriate liaison or confederation by/with industrial players and public-private partnerships;
- To propose possible legislative or regulatory approaches to eHealth interoperability including aspects relating to data privacy and security.



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Roadmap up to the 2007 Recommendation



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- Deliverables
- (a) Commission staff working document (2006)
- (b) Recommendation on eHealth Interoperability (2007)
- (c) Thorough analysis of alternative possible instruments (e.g., Communication, Recommendation, Directive).

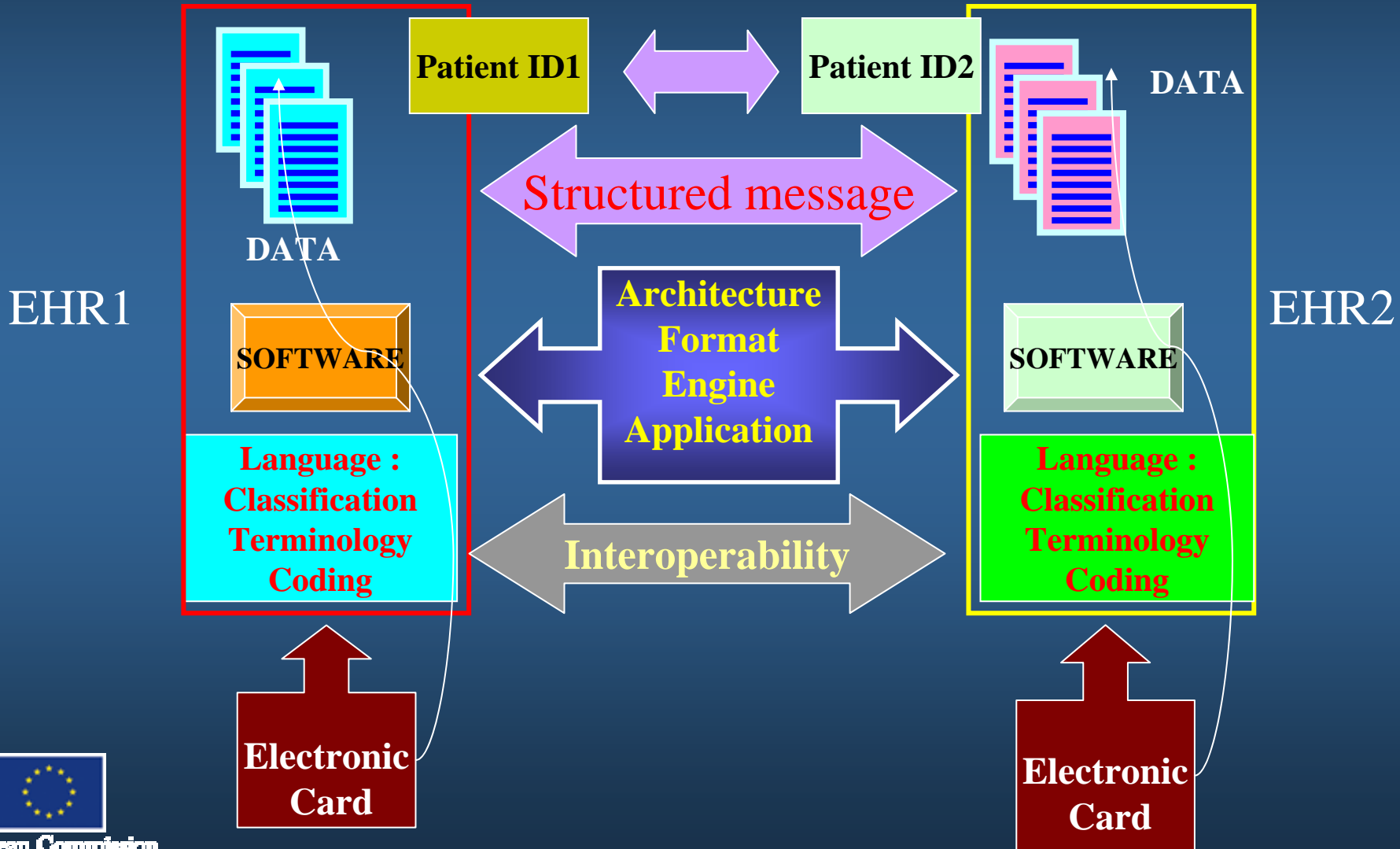


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EHR Interoperability components



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Economic and productivity Impact of eHealth

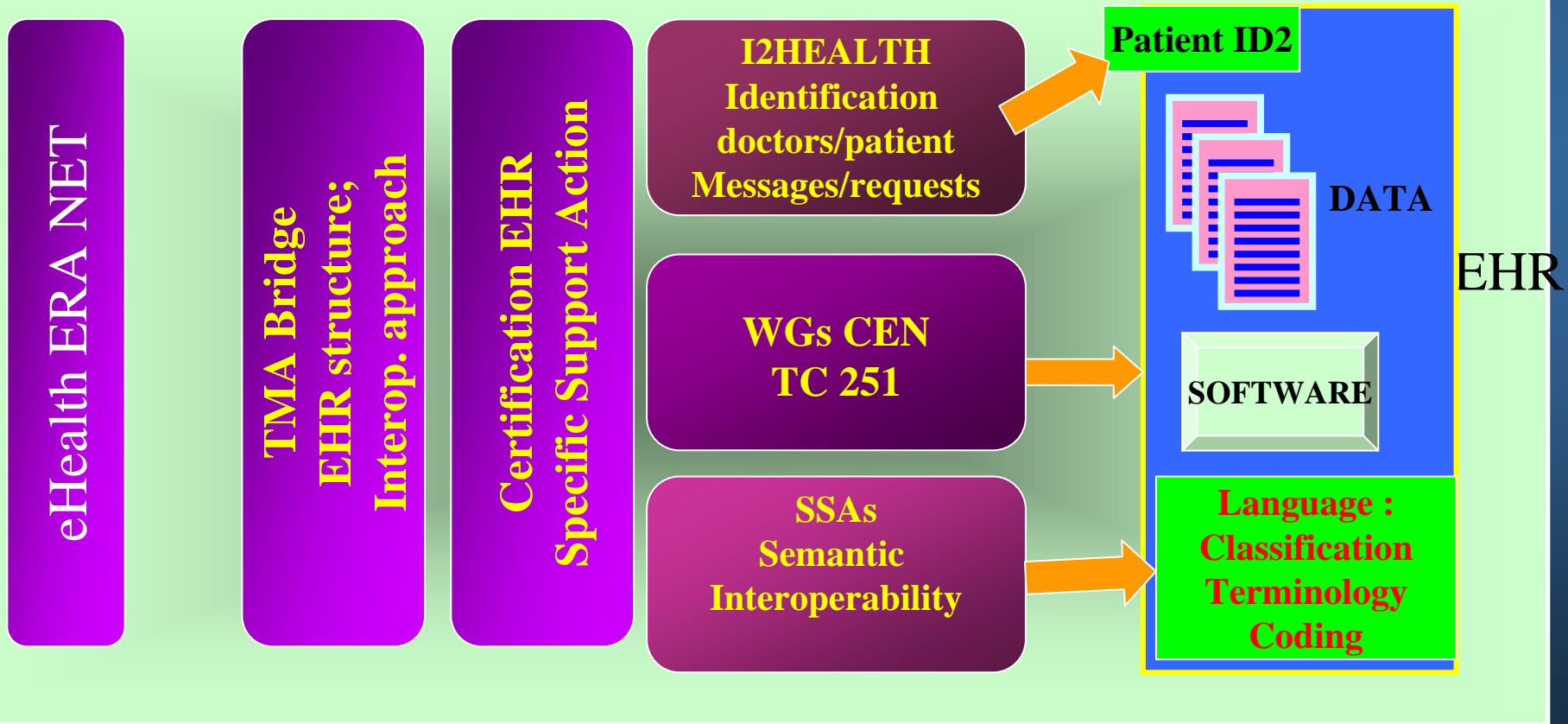
Best practices

Legal aspects of eHealth

Certification and accreditation eHealth

Patient identity

Studies

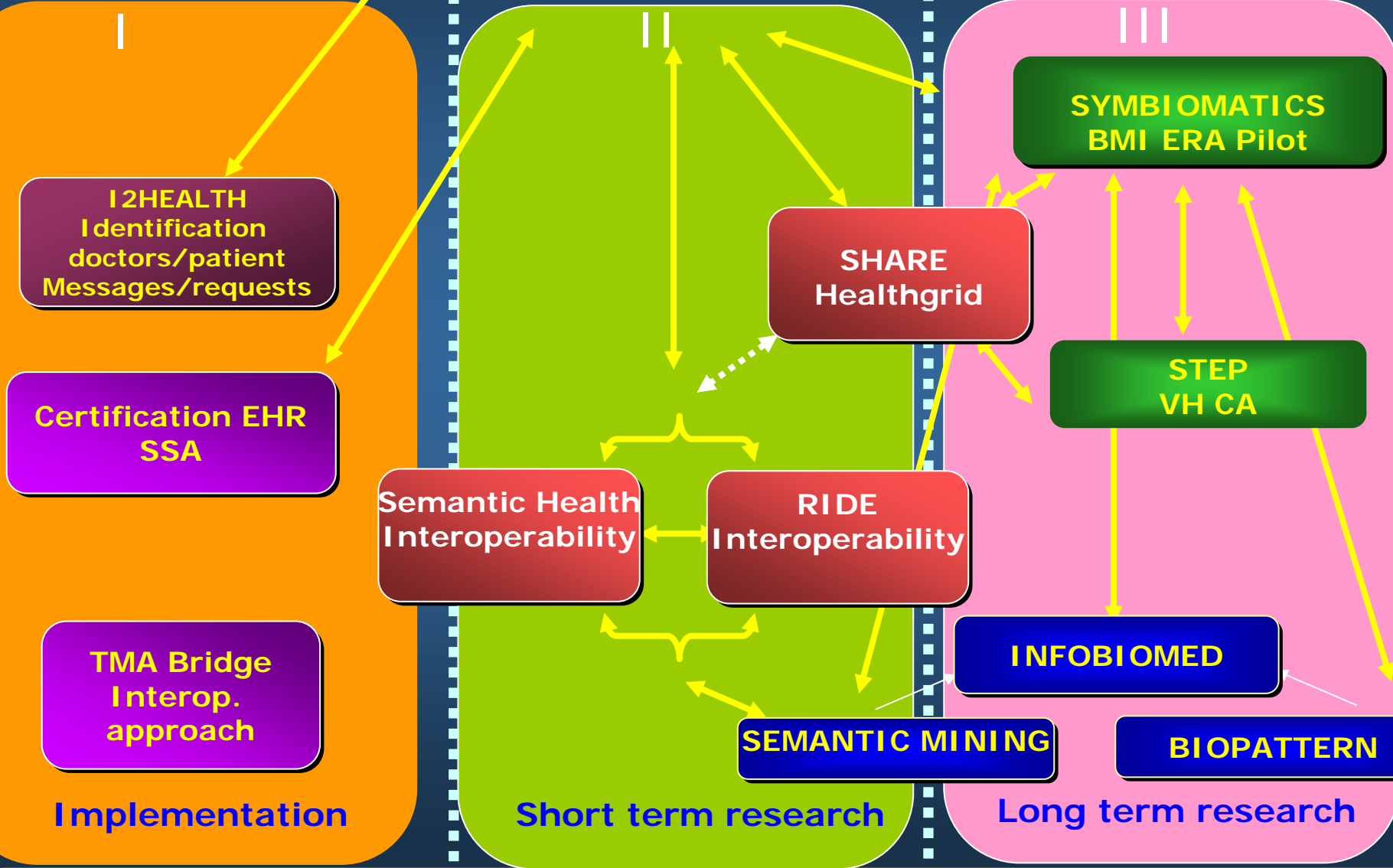


CISTRANA - IST ERA



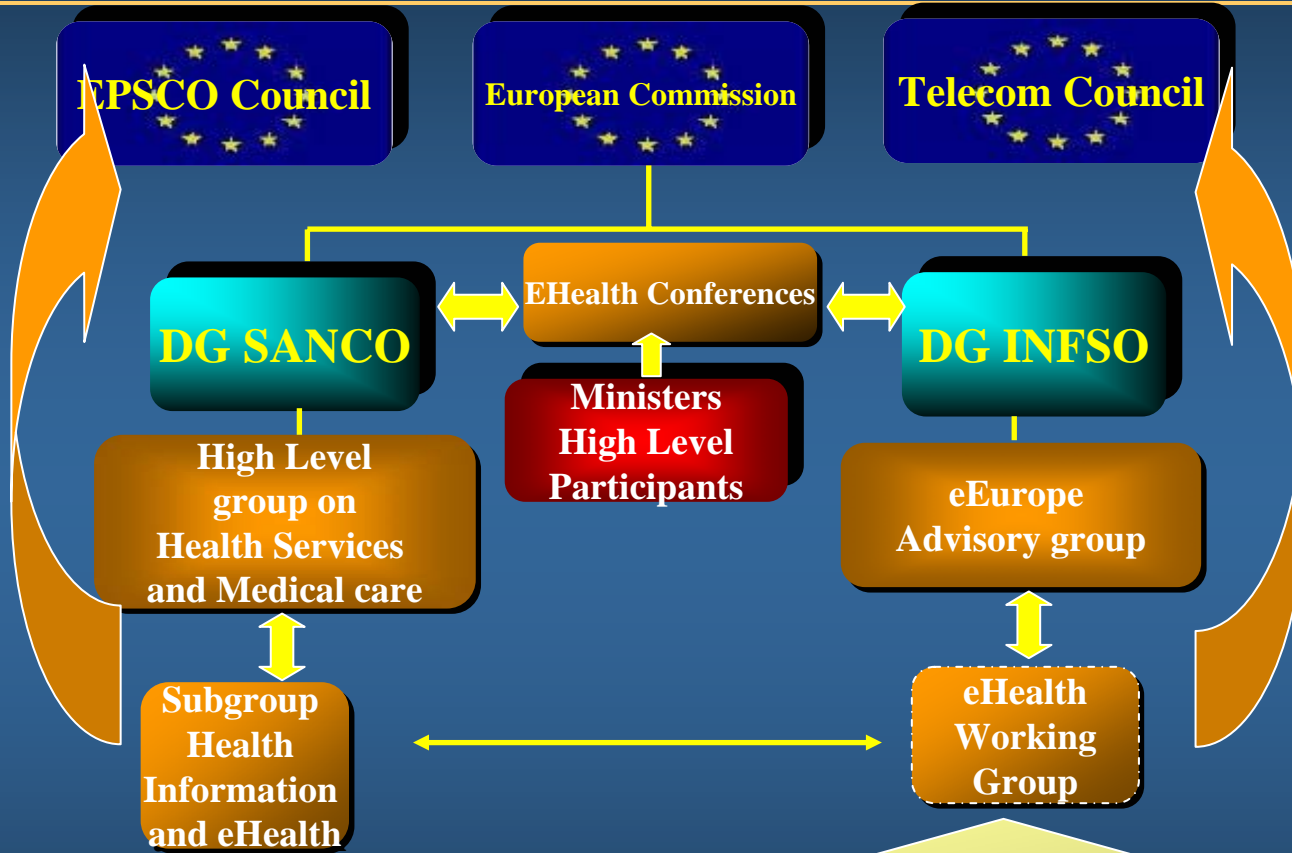
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eHealth ERA





Coordination of eHealth Action Plan in Europe



Stakeholders Group

CEN TC 251, ETSI, CENELEC, ISO TC 215, CEN/ISSS,
 Health practitioners (doctors, nurses, etc.), Patients, Health Managers, Hospitals, Media
 Industry (EHTEL (ind.) , IHE, COCIR, EAR, EUROREC, HINE),
 EU projects (COPRAS, SEMANTIC HEALTH, RIDE, i2HEALTH, eHealth ERA...) and studies





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