



## ***Telecounselling for neurosurgery in Veneto Region***

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for eHealth Innovation***

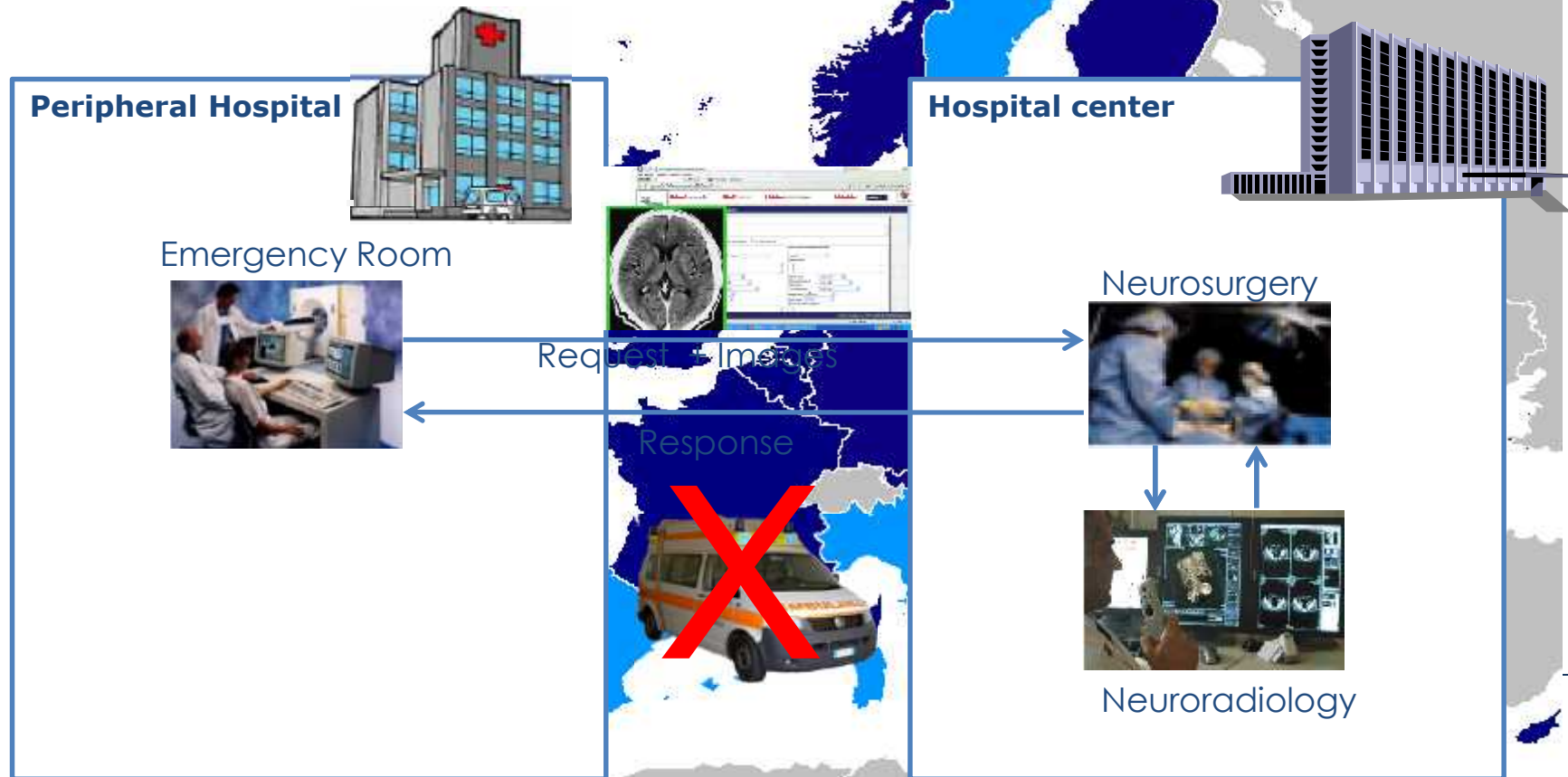
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## Neurosurgical telecounselling Service

**HEALTH OPTIMUM** is a European Project that validated and deployed an organizational model based on telemedicine service in order to support Neurosurgery.

Involved 5 European Regions, Veneto Region was Lead Partner



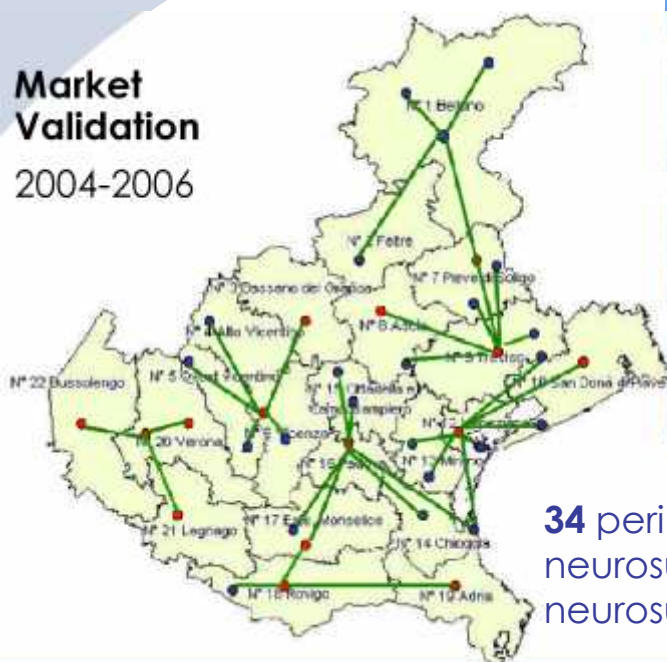


## Success of HEALTH OPTIMUM

**Market Validation**  
2004-2006

**Initial Deployment**  
2007-2009

**Services used in routine**  
From 2009



**34** peripheral hospitals without neurosurgery units are linked to 7 neurosurgical centres

Use of Telecounseling routinely

- 6783 telecounselings in 39 months
- From 1900 to 3200 telecounselings each year

Increasing of wards requiring telecounseling

- from 59 to 81

Many human resources involved

- 772 professionals

User satisfaction

- Scored 4,3 / 5

Reduction of transfert of patients

- 75% teleconsulting without transfer of patient

Increased availability of ambulances

- 20 minutes each day for each Hospital

Reduction of time for diagnosis

- 60% of telecounseling concluded within 1 hour





## Factors of success Obstacle and solution (1/5)

- **Obstacle:** hostility of users



- **Solution:**

- We created discussion boards to involve clinicians in the definition of the clinical pathway
- We stimulated cooperation among clinicians



- **Result:** a clinical and organizational model that:
  - meets the needs of users (clinicians' Satisfaction = 4.3 / 5)
  - reduces the clinical risk

**Telemedicine becomes a stable mode of delivery of clinical services**



## Factors of success Obstacle and solution (2/5)

- **Obstacle:** Telemedicine can find obstacles due to the lack of a clear regulatory framework. In this case, users and decision makers are not protected in terms of responsibility and reject the use of the instrument
- **Solution:**
  - We introduced the digital signature on the digital documents that are exchanged in order to make the responsibilities clear.
- **Results:** Before the introduction of telemedicine, the roles of actors in the neurosurgical consultation were unclear. The use of telemedicine service empowers and reassures operators





## Factors of success Obstacle and solution (3/5)

- **Obstacle:** the transition from the normal consultation to teleconsultation requires funding. The EU funding was limited to 30%, the LHAs could not bear the expense for the implementation and the new activities.



- **Solution:**
  - Providing decision makers (Veneto Region) with a multidisciplinary analysis conducted in market validation phase in order to obtain the co-financing
  - Generating agreements between requiring hospitals and hospitals which offer the service
- **Result:** the service is economically sustainable and generates the balance between LHAs.





## ***Factors of success Obstacle and solution (4/5)***

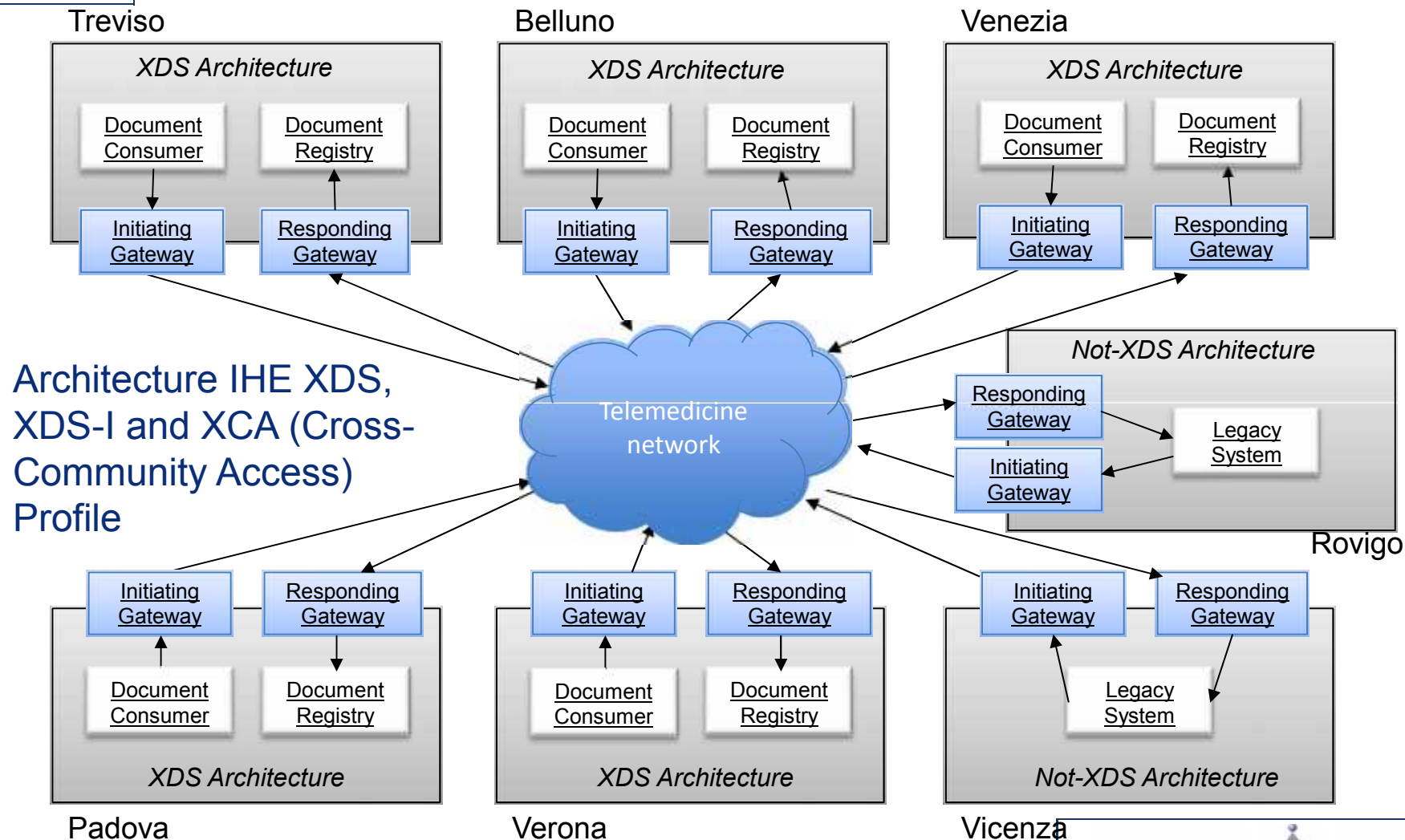
- **Obstacle:** difficulty in creating a network that can support the deployment
- **Solution:**
  - Building services on a model of integration and communication between LHAs, developed on a common semantic, technological, techno-organizational, and infrastructural basis (standard)







# Telemedicine Network



Standards: XML-CDA2 Form with LOINC and Regional Codes, ebXML transactions over HTTPs protocol







## Factors of success Obstacle and solution (4/5)

- **Obstacle:** difficulty in creating a network that can support the deployment



- **Solution:**

- Building services on a model of integration and communication between LHAs, developed on a common semantic, technological, techno-organizational, and infrastructural basis (standard)

- Creating a body for innovation with a unified vision of integration: Arsenàl.IT . In HO project, it released interoperability guidelines and managed start up phase

- **Result:**

- The network is flexible, allowing easy interoperability between systems implemented by different vendors that can follow guidelines provided by Arsenàl.IT and based on international standards
- Freedom in acquisitions





## ***Factors of success Obstacle and solution (5/5)***

- **Obstacle:** Some vendors were not familiar with interoperability and application of international standards.
- **Solution:**
  - Arsenàl.IT daily updates interoperability skills and knowledge and provides suppliers with the possibility to test systems and to participate in international trials organized by IHE.
- **Result:**
  - The industry is prepared to deploy telemedicine also for other services



## Conclusion

- ✓ Realization of telemedicine services currently active, that put all 21 LHAs and 2 Hospital Trusts in a network and uniformly distributed organizational models in order to guarantee equal treatment to all citizens
- ✓ HEALTH OPTIMUM is the foundation for other applications, such as Veneto ESCAPE and Doge





*Thank you for your attention!*

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