



# European W3C Symposium on eGovernment: **Semantic Tools for the e-Citizen**

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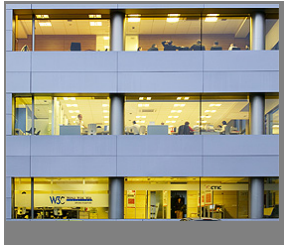
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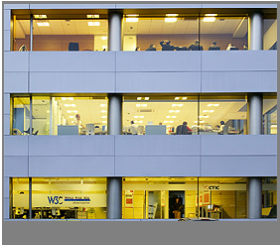


- eWhat? eGovernment?
- Goals and core research
- Semantic Web Roadmap to eGovernment
- Semantic tools for eCitizens



- Services between **administrations** (G2G)
  - Cooperation between local and national administrations
  - Interoperability between different administrations
  
- Services to **business** (G2B)
  - Provision of higher quality electronic services
  - Reducing transaction costs to businesses
  
- Services to **citizens** (G2C)
  - Easier access to information of public administrations
  - Direct communication between citizens and policy-makers

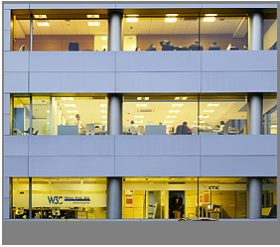
(Suggestion: *google* "Global E-Government Readiness Index")



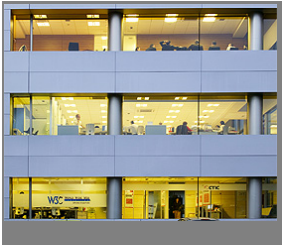
- Data interchange
  - Security, statistical data, EU framework
  
- Similar structures and organization
  - Common needs: personnel and document management
  
- Similar procedures
  - Procedure models can be reused in the EU



- Public administrations provide services to companies
  - Permissions, registers, taxes, etc.
  - Access to public information
  
- Public administrations consume products and services
  - Public procurement



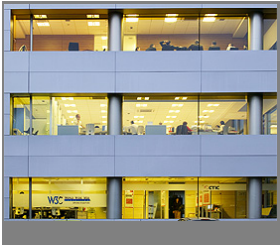
- Universal and ubiquitous access to the public information
  - Device Independence
  - Universal usability
  - Different kinds of information: laws, public funding, notifications, etc
  
- E-procedures and services to citizens
  - Employment
  - Education
  - Health



- Finding powerful and more **efficient** means
- Assuring **quality** of public services
- Enhancing **experience** of citizens
- Improving **transparency** and **traceability** in services

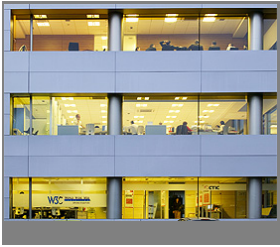


- Semantic Web and information management technologies for eGovernment **systems interoperability and interaction** with and between citizens, business and public administrations
- Engineering of **innovative personal services for all**, according to individual life events and situation, that will be trusted and easy accessible
- eParticipation, consultation, democratic processes and intelligent on-line **community** management
- Advanced **technologies** that will enable **efficient and effective** eGovernment (e.g. smart tags, sensors networks, advanced GPS, knowledge grid)

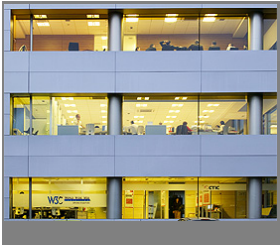


## The *Semantic Web way* to eGovernment:

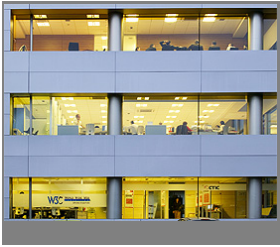
1. *Identifying* things
2. *Describing* things
3. *Organizing* things
4. Creating *tools*



- In the Semantic Web, **resources** must be **identified** in order to **talk about** them:
  - People
  - Companies
  - Administrative files
  - Geographical places
  - Products and services
  - ...



- In the **real world**, things are **already identified**:
  - ID cards, passports
  - Administrative file numbers
  - Postal codes
  - Social security numbers
  - Tax ID numbers
- The challenge is to create a **Web identity**:
  - **Unique**
  - **Shareable**
  - **Trusty**



- Add metadata to describe any resource
  - Standards: Dublin Core, SKOS, Inspire Initiative, ISO 5964, ISO 2788, ISO 11179, etc.
- Reuse existing information sources
  - Statistical classifications
  - Thesauri
  - Taxonomies



- Statistical Classifications are used as “identifiers” in some domains
  - Health: ESOD, COD
  - Economic Activities: NACE rev.2
- Statistical Office of the European Communities (Eurostat)
  - producing data for the EU (statistical indicators)
  - promoting harmonisation of statistical methods across the member states.
  - National Statistics Institutes (Italy, Romania, etc.)



- Eurovoc Thesaurus
  - Goal: indexing the documents in the documentation systems of the European institutions and of their users.
  - Version in each of the official languages of the EU (20 languages)
  - 6500 concepts (codes)
- Common Procurement Vocabulary (CPV)
  - Goal: standardising the references used by contracting authorities and entities to describe the subject of procurement contracts
  - Version in each of the official languages of the EU (20 languages)
  - 8200 concepts (codes)



- Ontologies **define** things in a multilingual environment
- Ontologies **formalize** common processes and organizations
- Ontologies **add structure** to metadata
- Ontologies provide the foundation to **share information** in a distributed manner across different agents

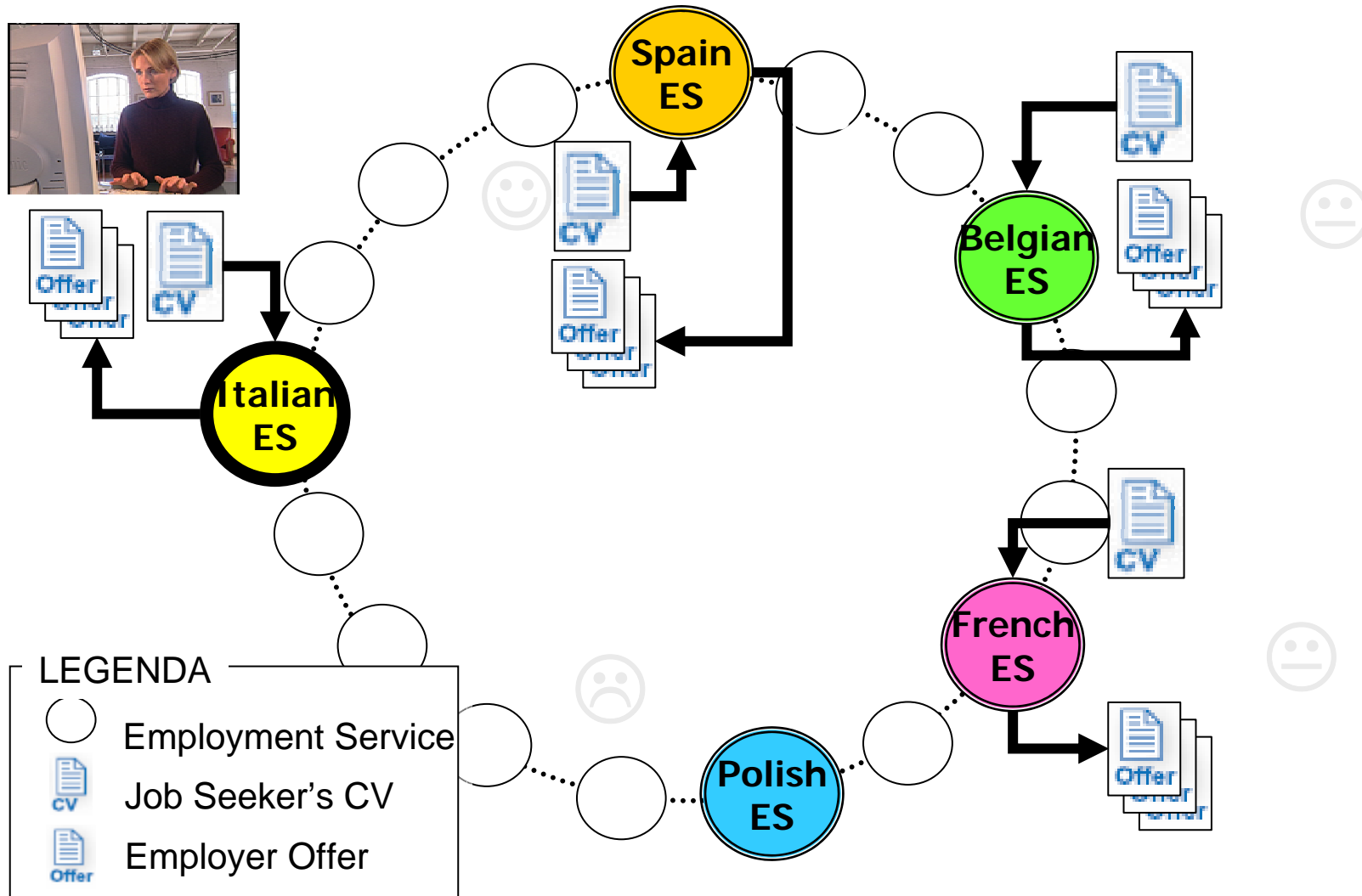


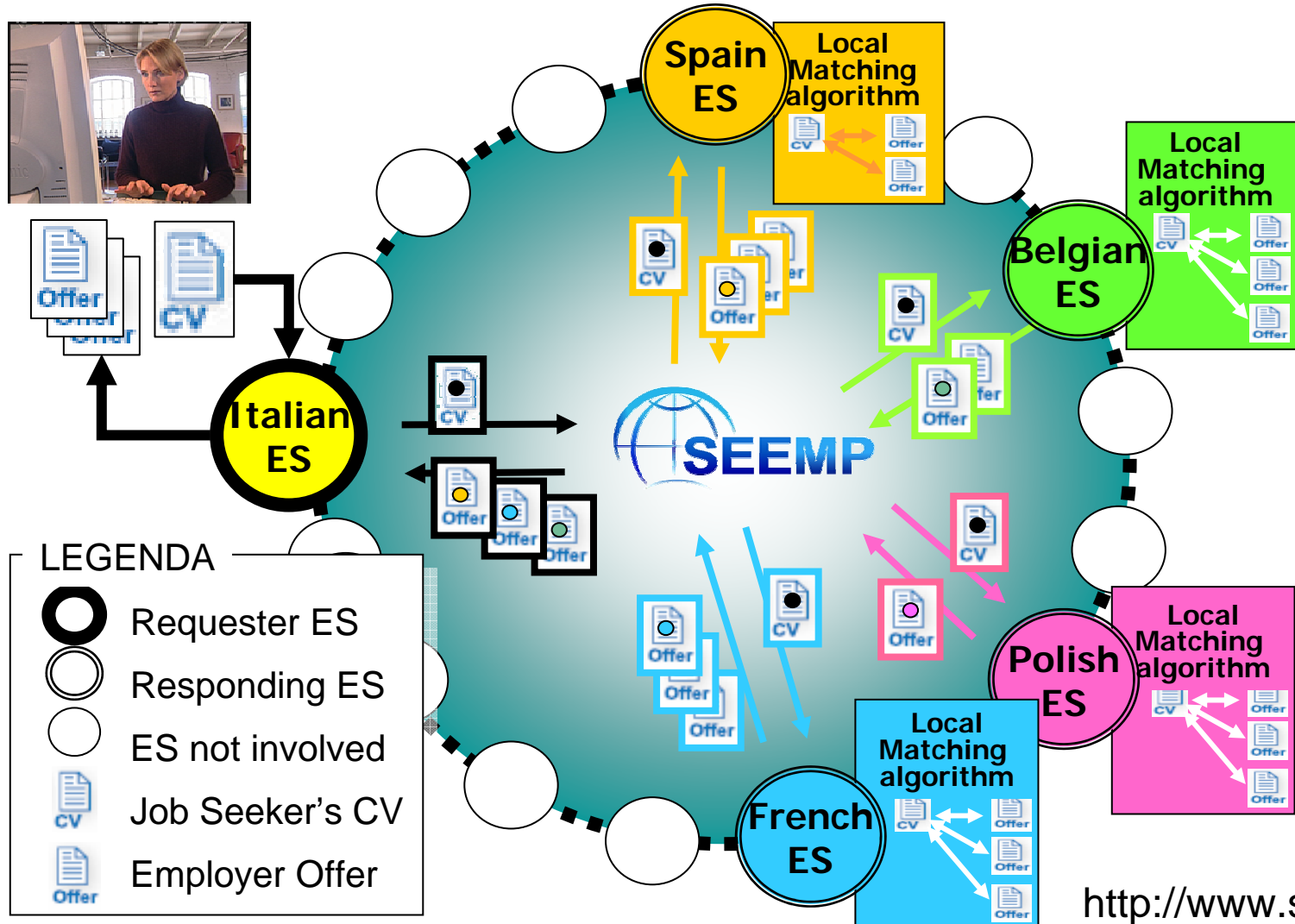
## ■ Some examples:

- Employment: **SEEMP** Project
- Ubiquitous access: **MyMobileWeb** Project
- Semantic Search: **BOPA** Project

## ■ Other domains:

- eTourism
- Automatic Form Completion
- eLearning

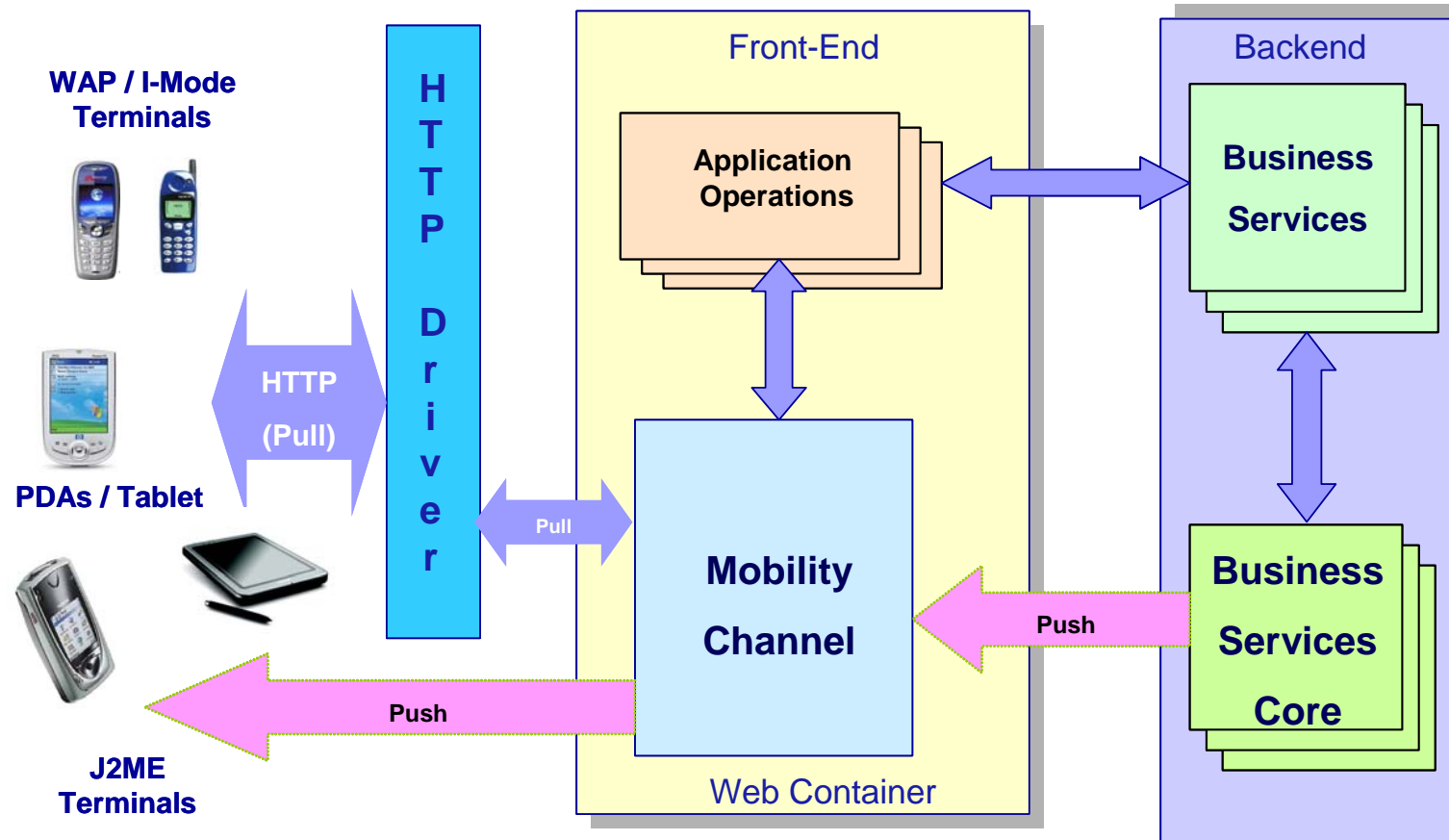




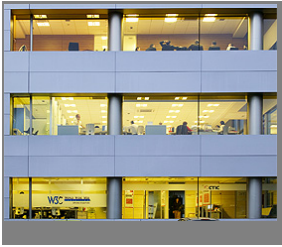
<http://www.seemp.org>



# MyMobileWeb Project: Overview

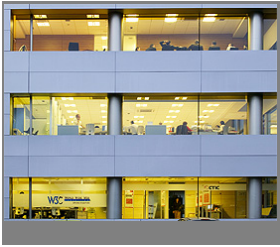


<http://www.morfeo-project.org/>



## BOPA Project: Overview

- **Official Bulletin** of Principality of Asturias (BOPA)
  - Administrative and legal documents
  
- BOPA Project
  - A **semantic search engine for citizens**
  - Semantic approach based on **ontologies**
  - Special focus in **three domains**
    - Employment
    - Public procurement
    - Public Funding



## BOPA Project: the “linguistic gap”

alicuota **venia** predio **rematante** plica adverado

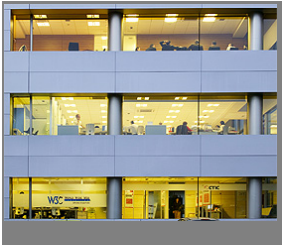
bastanteo etiología **endógeno** abrogación otrosí

dimanar pignoraticio **subrogación** acrecimiento

tenor **caución** incoar mostrenco coerción

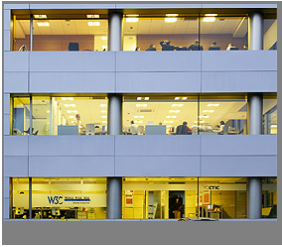
**casación** enfiteusis **fideicomiso** exacción

*(These words are unintelligible even for Spanish readers)*



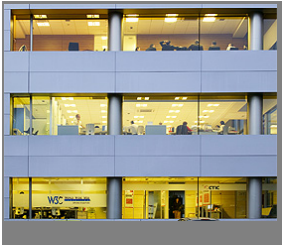
## BOPA Project: semantic features

- Citizens don't know **administrative and legal jargon**
  - The system selects the correct words to perform the search
- Citizens usually **lack expert knowledge** required to be successful in their queries
  - Ontologies guide users to the results
- **Metadata creation is expensive** and bounds the system to the ontologies
  - The system uses them whether available
  - But it relies on **query rewriting**



## BOPA Project: demo

**WARNING: Beware of the demo effect!**



## Semantic Tools for the e-Citizen

**Questions?**

**Thank you!**



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