UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Cross-Language Evaluation Forum

Benchmarking Multimedia Retrieval Applications

ICT 2010 Networking Session, 28th September 2010, Brussels

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CLEF “Classic”

Objectives

- Promote research and stimulate development of multilingual and multimodal IR systems for European (and non-European) languages, through
  - Creation of evaluation infrastructure and organisation of regular evaluation campaigns for system testing
  - Building of an MLIA/CLIR research community
  - Construction of publicly available test-suites

- Major Goal
  - To anticipate the emerging needs of the R&D community, and
  - Encourage development of truly multilingual and multimodal systems

History

- 1997 – First CLIR system evaluation campaigns in US and Japan: TREC and NTCIR
  - CLEF actually began life in 1997 as a track for Cross Language Information Retrieval (CLIR) within TREC. Mainly, English centered tasks (EN -> X, X -> EN).

- 2000-2009 – CLIR evaluation in Europe: CLEF (extension of CLIR track at TREC)
  - Fully multilingual, multimodal information retrieval systems capable of processing a query in any medium and any language finding relevant information from a multilingual multimedia collection containing documents in any language and form, and presenting it in the style most likely to be useful to the user

- Funding
  - DELOS NoE under FP5 2000 – 2003 (http://delos-noe.isti.cnr.it/)
  - DELOS NoE under FP6 2004 – 2007 (http://www.delos.info/)
  - TrebleCLEF under FP7 2008-2009 (http://www.trebleclef.eu/)

CLEF Achievements

- Stimulation of research activity in new, previously unexplored areas
- Study and implementation of evaluation methodologies for diverse types of cross-language IR systems
- Creation of a large set of empirical data about multilingual information access from the user perspective
- Quantitative and qualitative evidence with respect to best practice in cross-language system development
- Creation of reusable test collections for system benchmarking
- Building of a strong, multidisciplinary research community

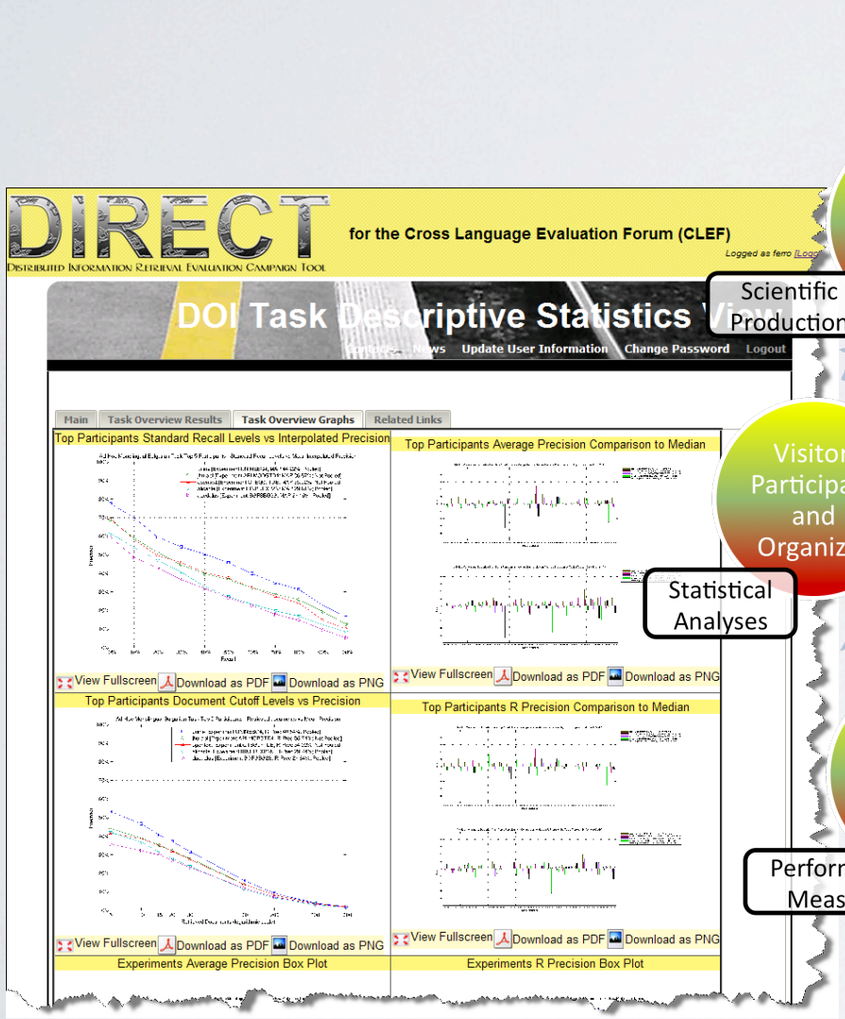
CLEF Test Collections

- CLEF multilingual comparable corpus of more than 3M news docs in 15 languages: BG,CZ,DE,EN,ES,EU,FI,FR,HU,IT,NL,RU,SV,PT and Persian
- The European Library Data in DE, EN, FR (>3M docs)
- GIRT-4 social science database in EN and DE, Russian ISISS collection; Cambridge Sociological Abstracts
- Online Flickr database
- IAPR TC-12 photo database (20,000 images, captions in EN, DE);
- ARRS Goldminer database (200,000 medical images)
- IRMA: 10,000 images for automatic medical image annotation
- INEX Wikipedia image collection (150,000 images)
- Very large multilingual collection of Web docs (EuroGov)
- Malach spontaneous speech collection – EN & CZ (Shoah archives)
- Dutch / English documentary TV videos
- Agence France Press (AFP) newswire in Arabic, French & English
- Patent documents from the European Patent Office

The DIRECT System

DIRECT

Distributed Information Retrieval Evaluation Campaign Tool



The DIRECT System

more than 5.6 million documents

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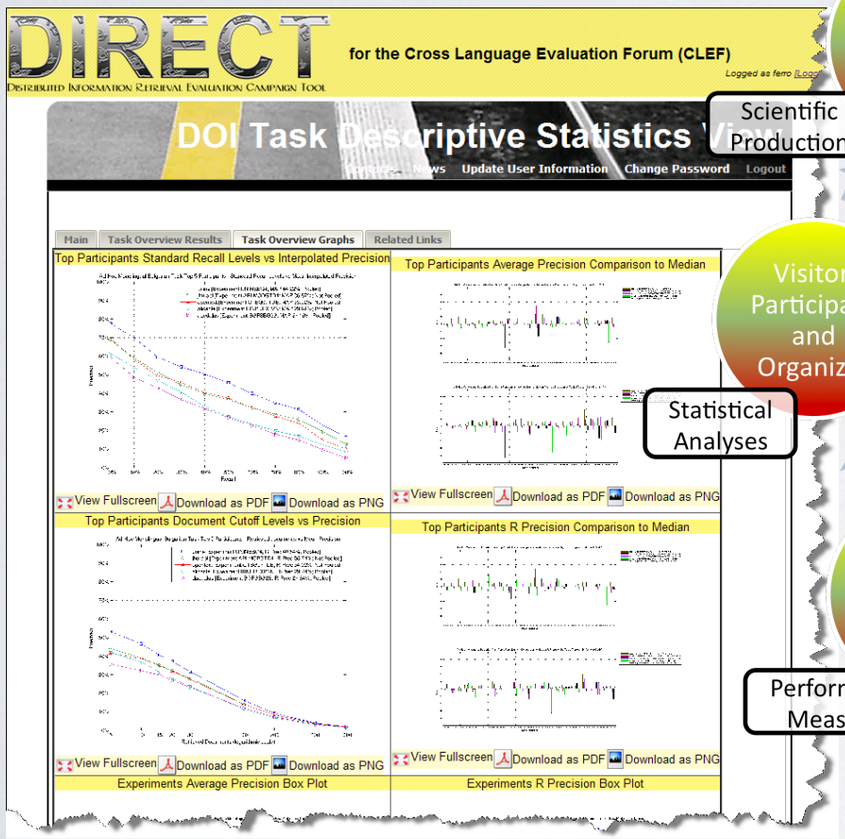

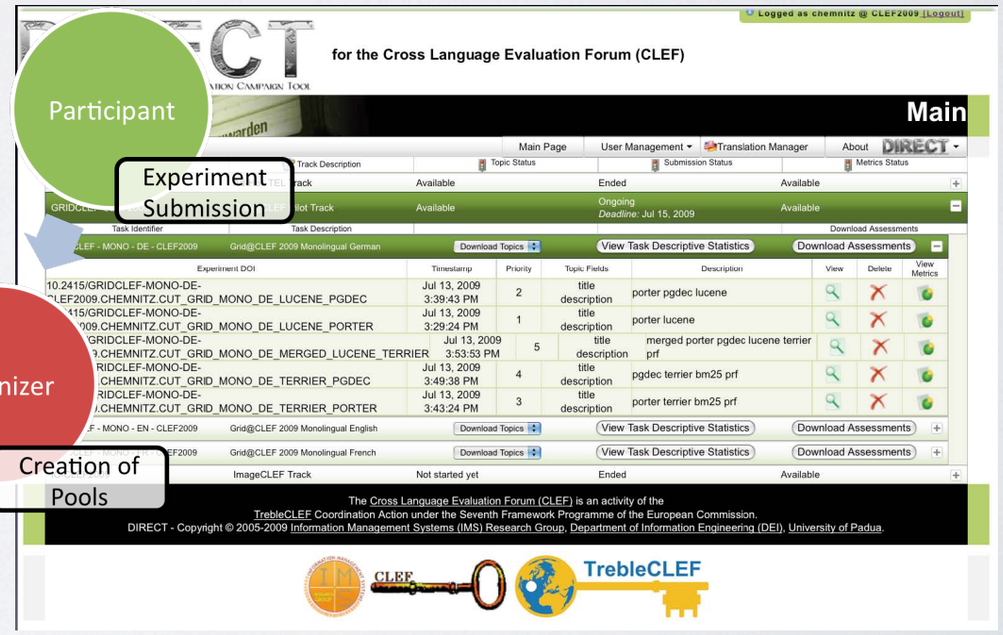

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more than 5.6 million documents

more than 1.5 million relevance assessments for more than 600 topics made by over 200 assessors in 15 different countries

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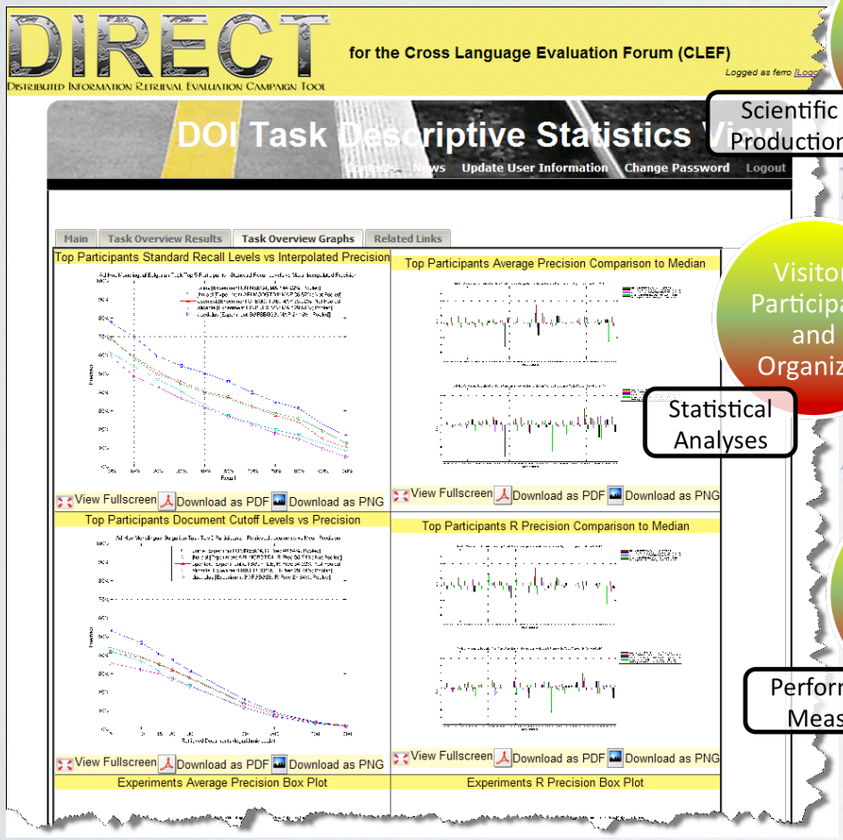

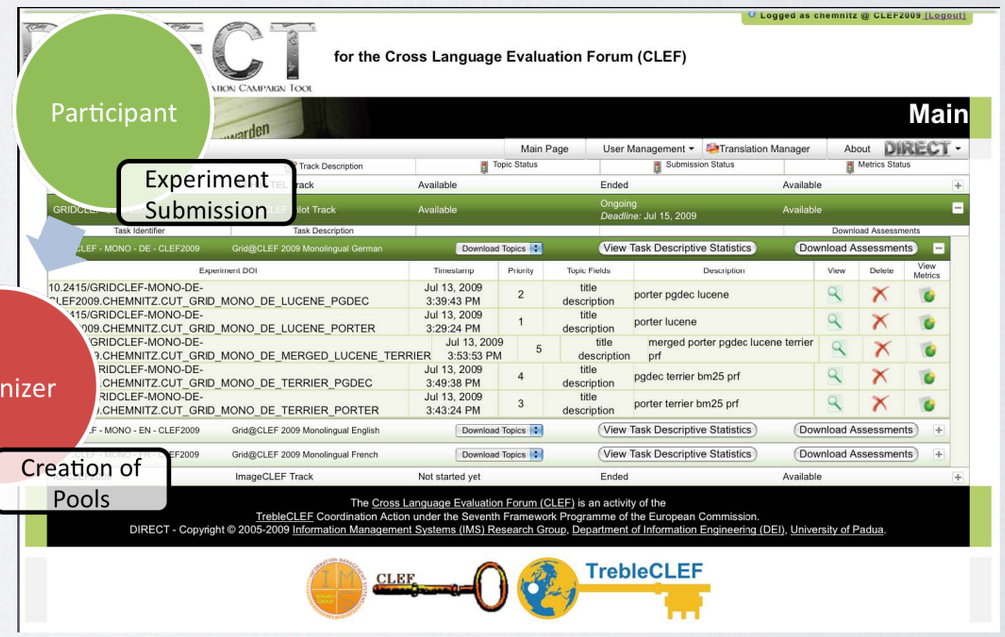

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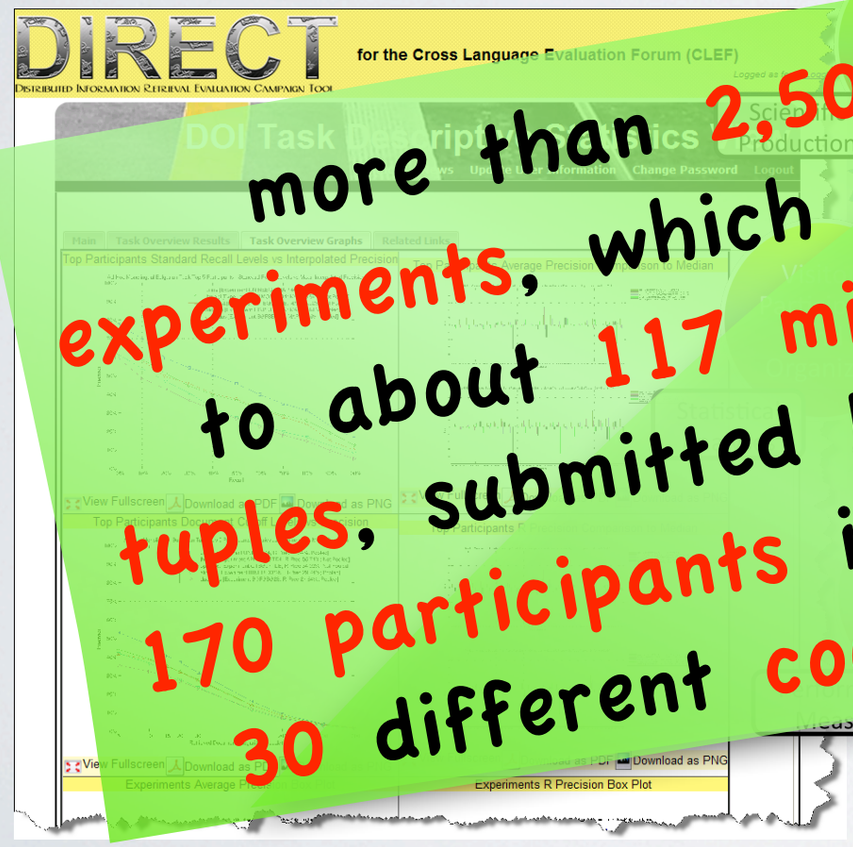

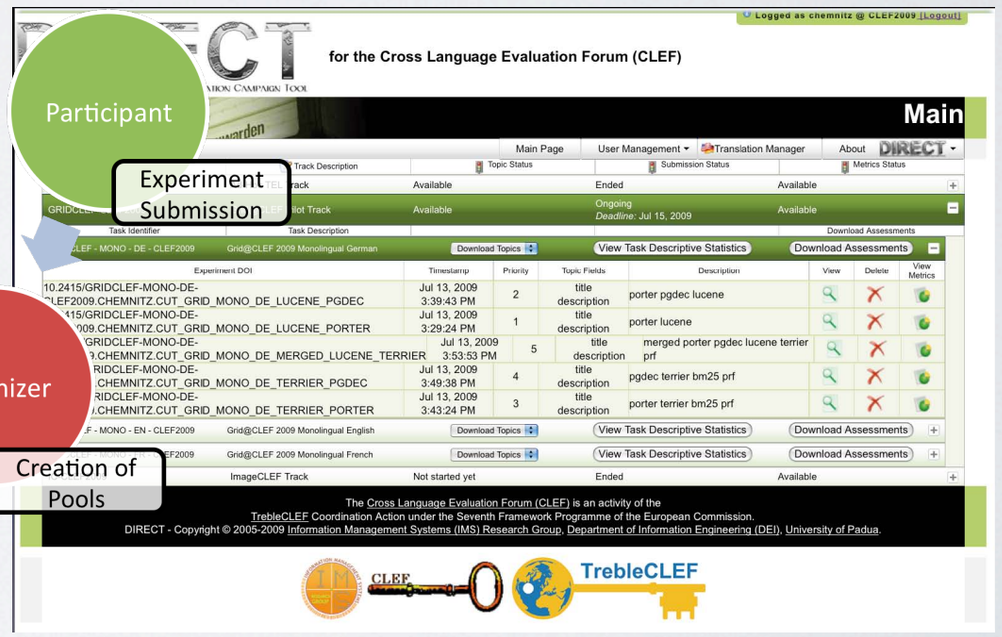

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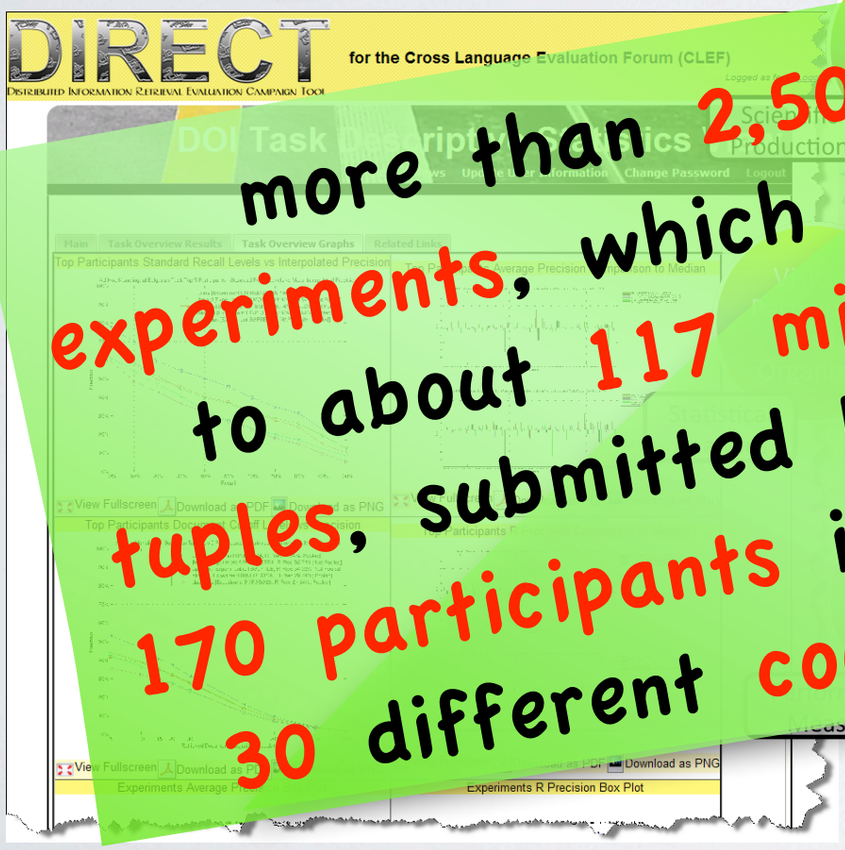
over 5.5 million performance measures and descriptive statistics; and, about 20,000 plots and statistical analyses graphs



CLEF 2010

Challenges

- What and how innovate
- Change in the coordination
- Funding

Vision

CLEF 2010 as a **bridge**

to the future

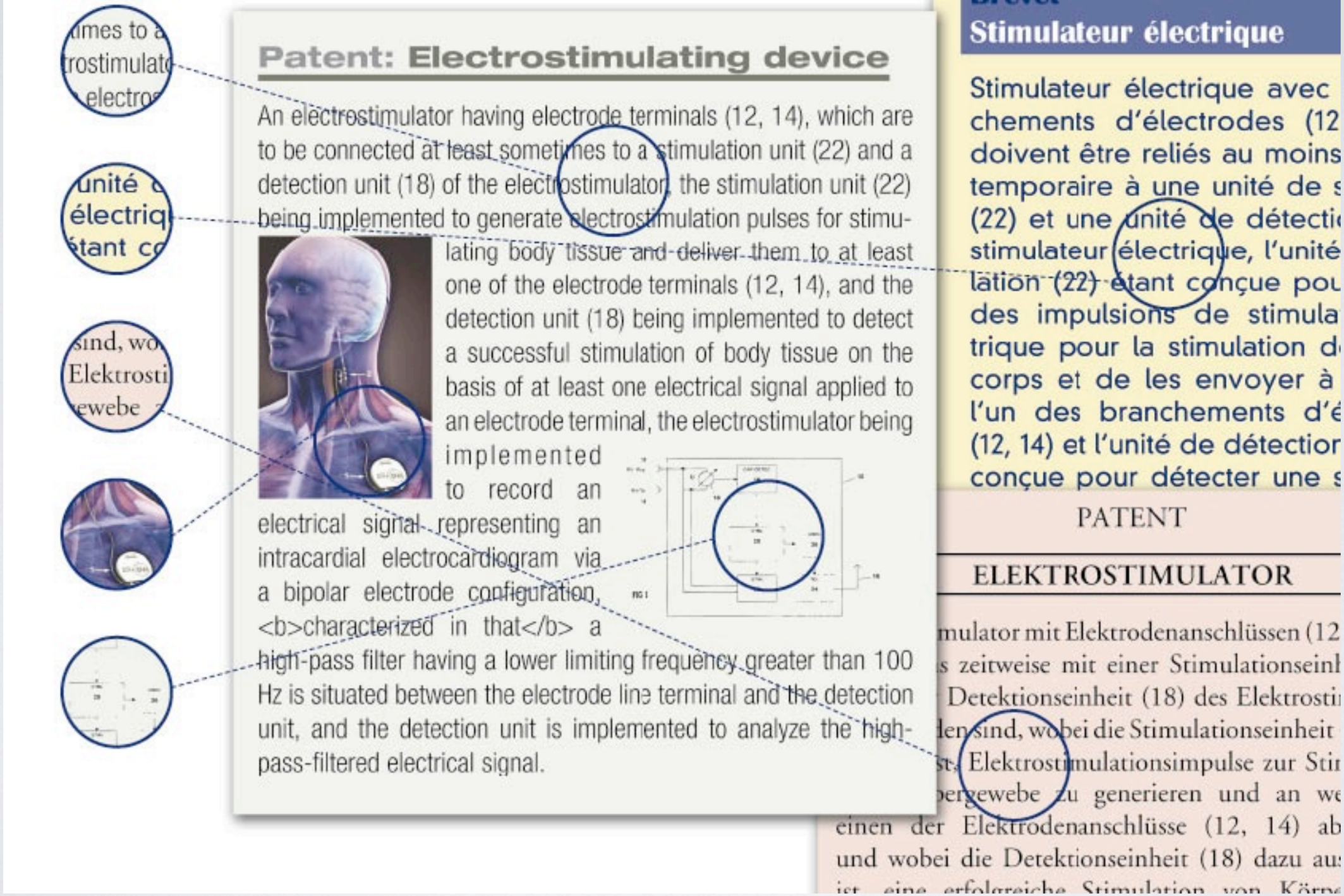
Vision

The **community** is the key to **success**

CLEF 2010 as a **bridge** to the future

Use Cases: Culture Cultural Herigate

Use Cases: Intellectual Property



Patent: Electrostimulating device

An electrostimulator having electrode terminals (12, 14), which are to be connected at least sometimes to a stimulation unit (22) and a detection unit (18) of the electrostimulator, the stimulation unit (22) being implemented to generate electrostimulation pulses for stimulating body tissue and deliver them to at least one of the electrode terminals (12, 14), and the detection unit (18) being implemented to detect a successful stimulation of body tissue on the basis of at least one electrical signal applied to an electrode terminal, the electrostimulator being implemented to record an electrical signal representing an intracardial electrocardiogram via a bipolar electrode configuration, characterized in that a high-pass filter having a lower limiting frequency greater than 100 Hz is situated between the electrode line terminal and the detection unit, and the detection unit is implemented to analyze the high-pass-filtered electrical signal.

Brevet
Stimulateur électrique

Stimulateur électrique avec
chements d'électrodes (12
doivent être reliés au moins
temporaire à une unité de s
(22) et une unité de détecti
stimulateur électrique, l'unité
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des impulsions de stimula
trique pour la stimulation d
corps et de les envoyer à
l'un des branchements d'é
(12, 14) et l'unité de détectior
conçue pour détecter une s

PATENT

ELEKTROSTIMULATOR

mulator mit Elektrodenanschlüssen (12
s zeitweise mit einer Stimulationseinh
Detektionseinheit (18) des Elektrosti
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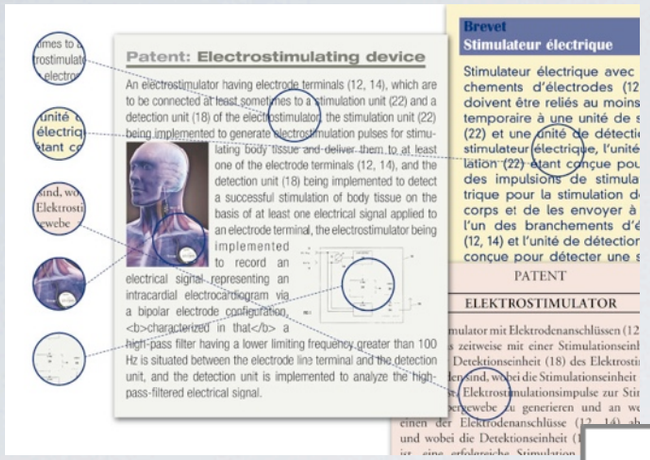
st, Elektrostimulationsimpulse zur Stir
pergewebe zu generieren und an we
einen der Elektrodenanschlüsse (12, 14) ab
und wobei die Detektionseinheit (18) dazu aus
ist, eine erfolgreiche Stimulation von Körpe

Use Cases: Intellectual Property



Use Cases: Medical Domain

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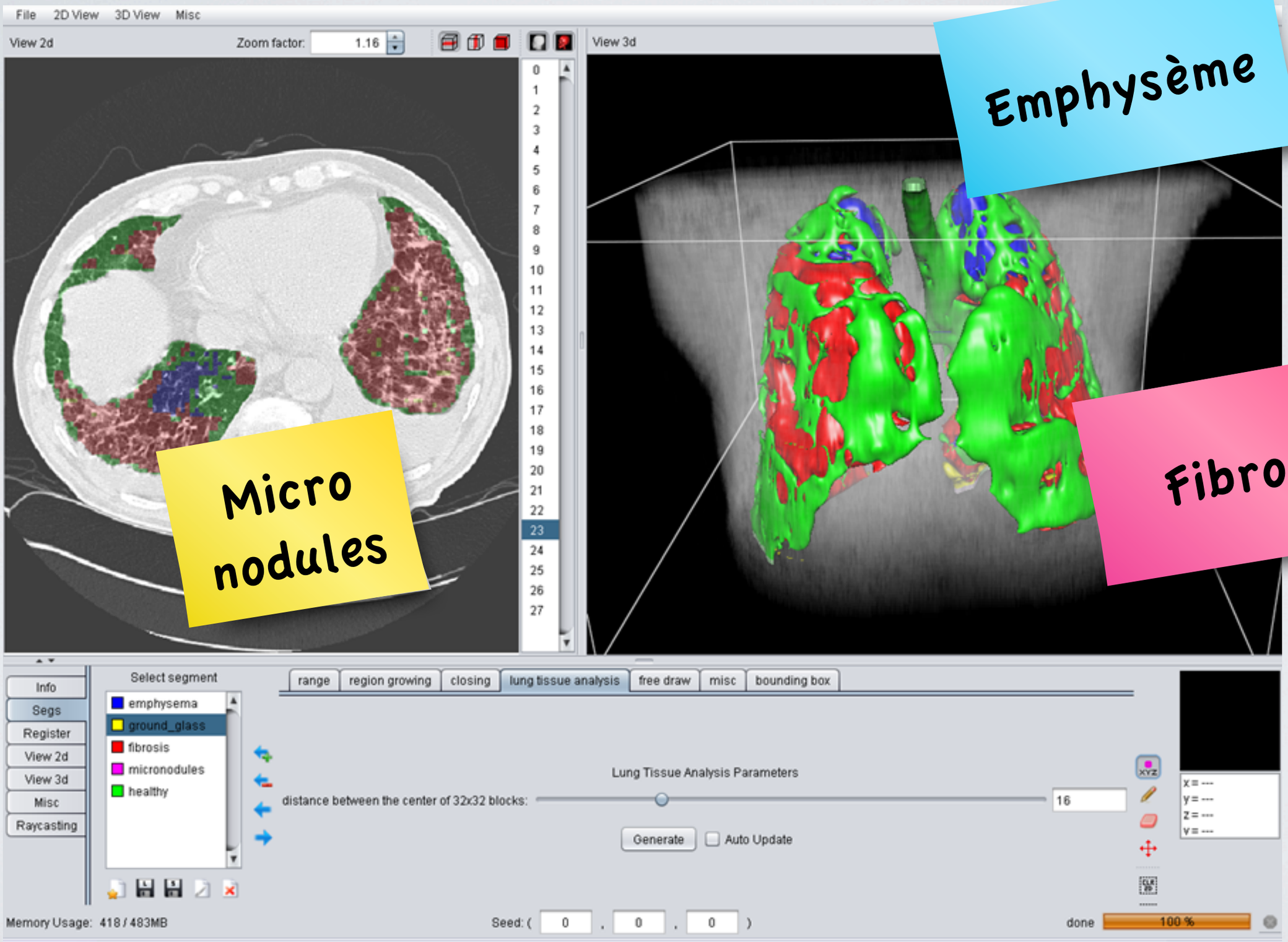
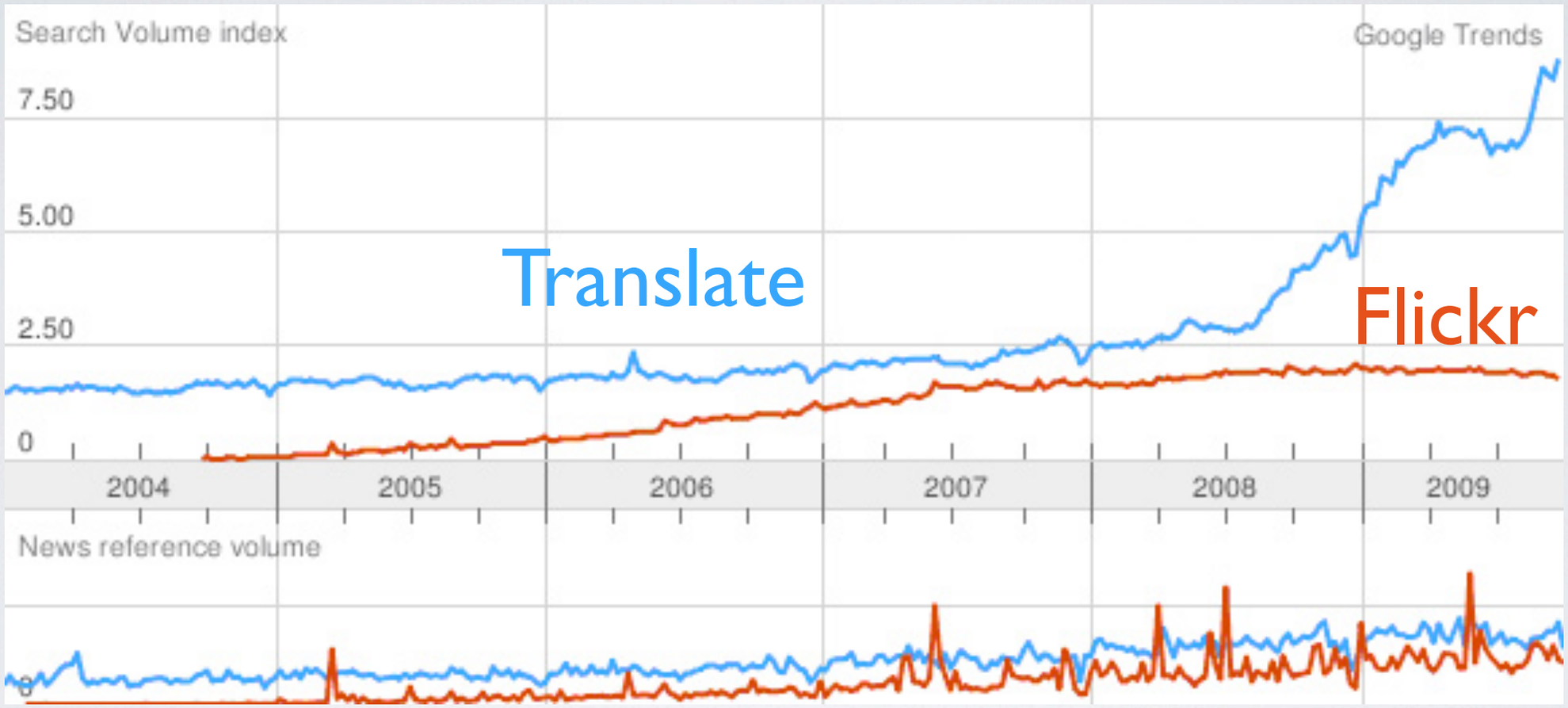


Use Cases: The Web



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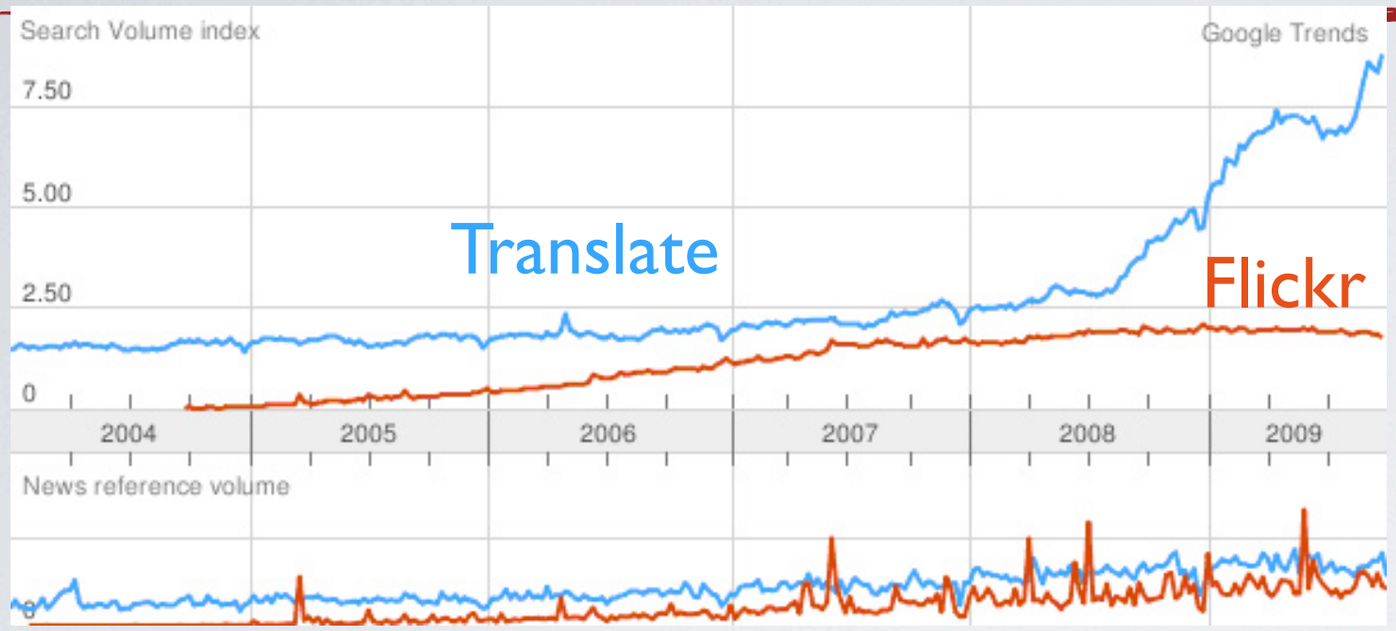
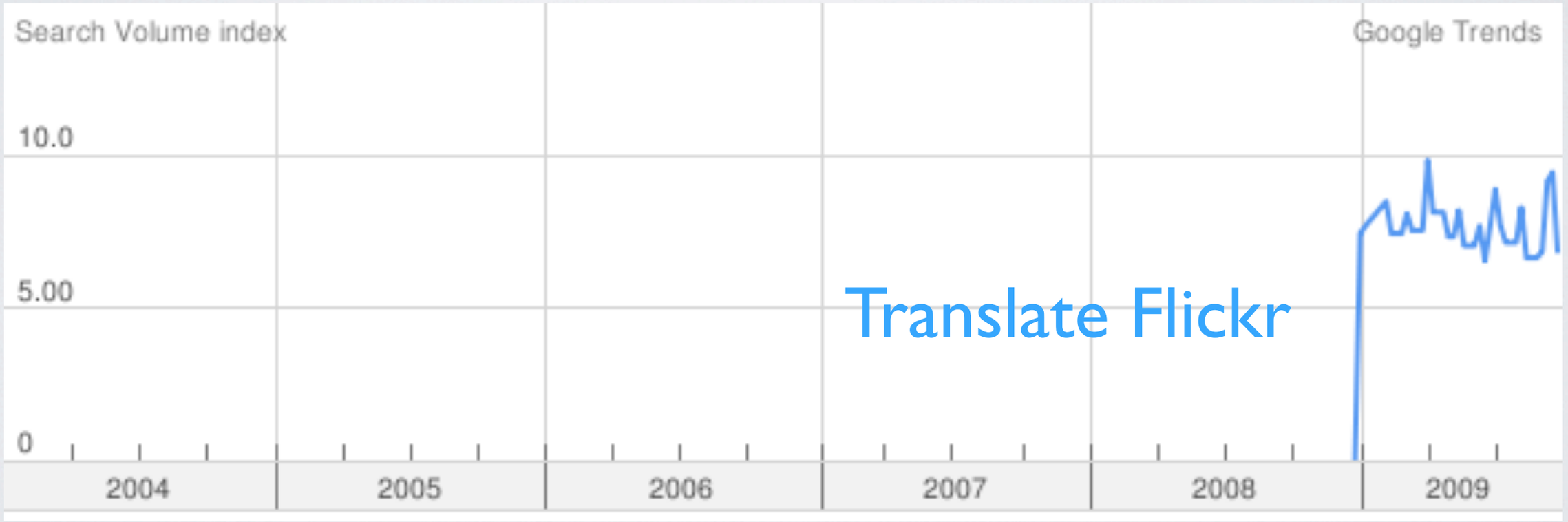
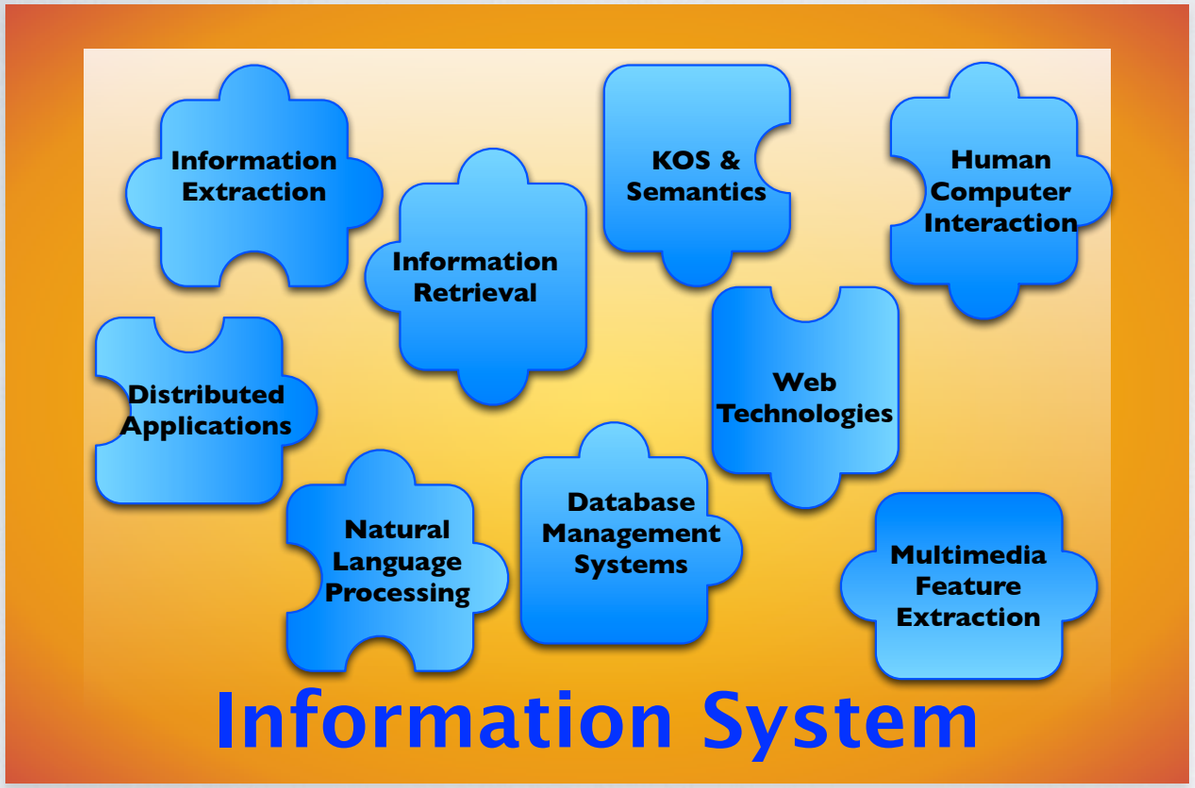
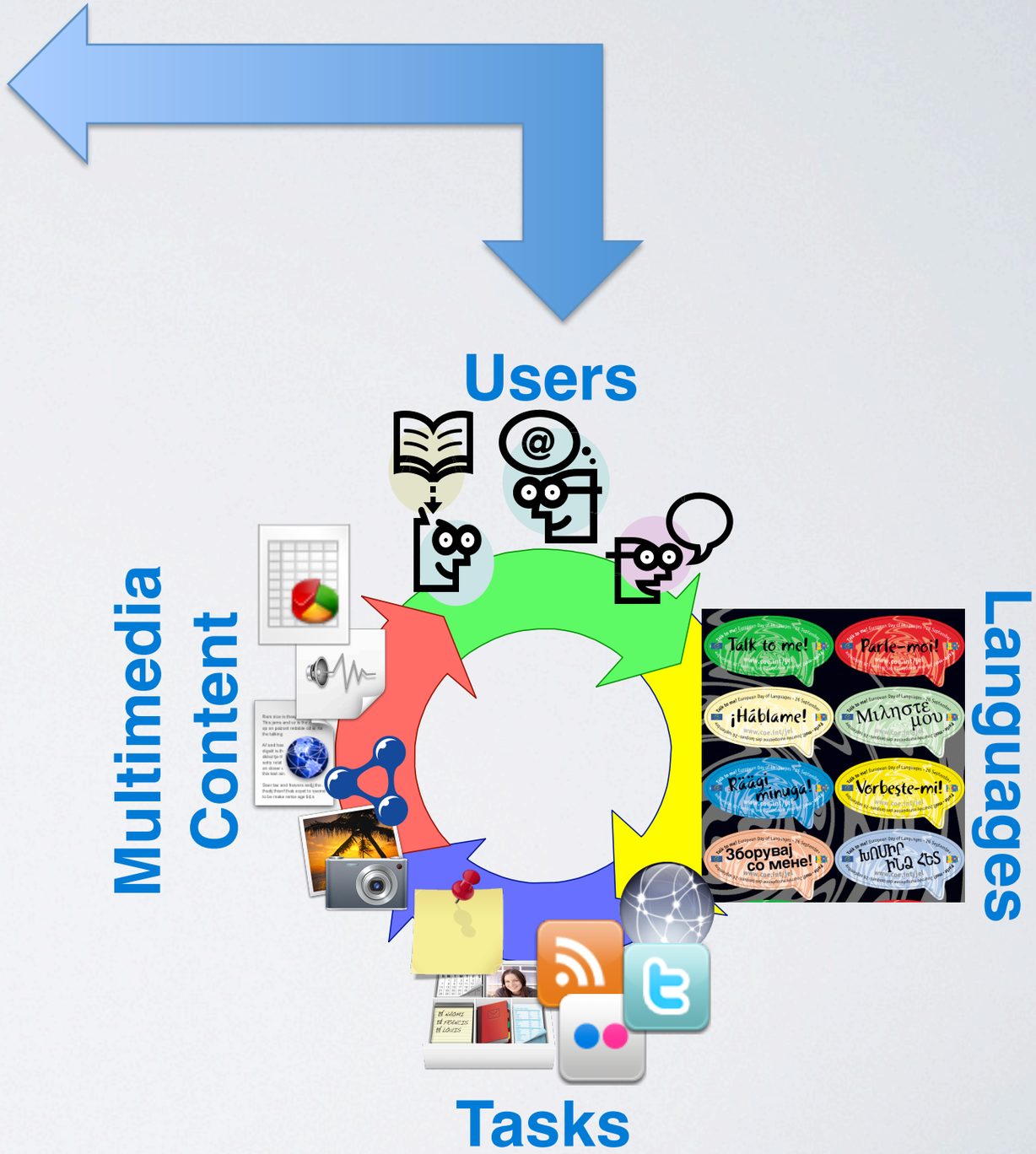




Multilingual and Multimedia Information Access Systems





Multilingual and Multimedia Information Access Systems

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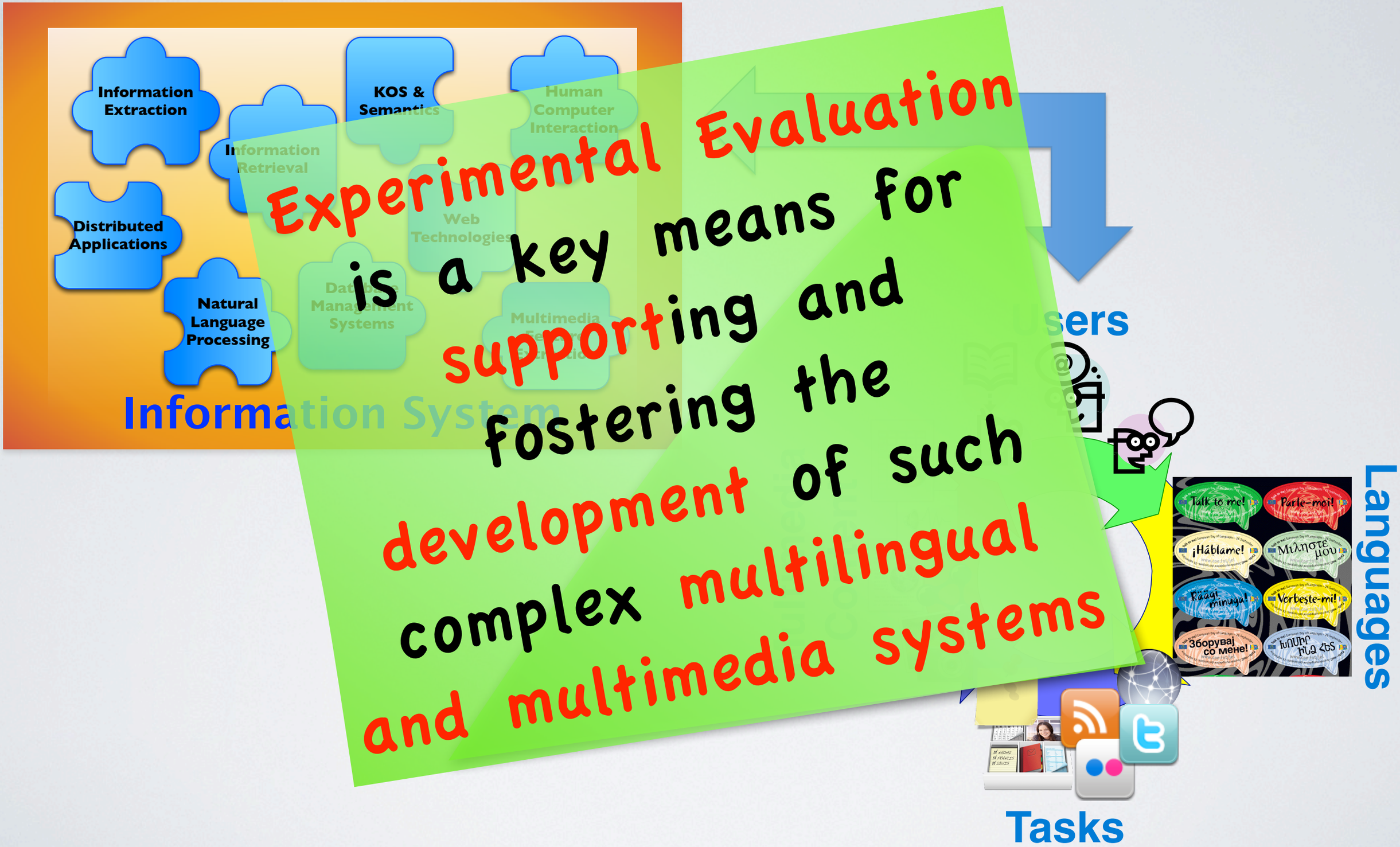


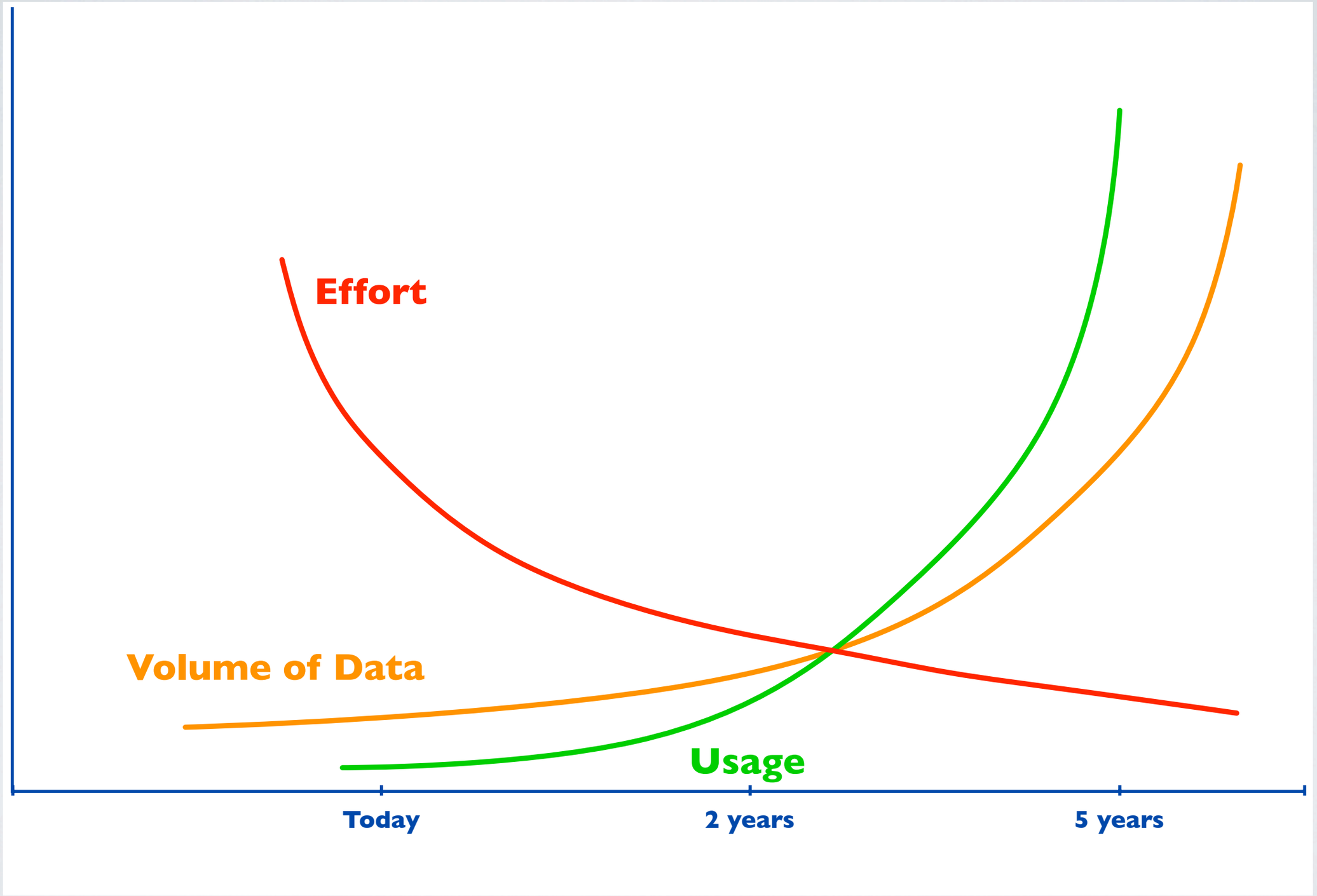
Challenges for Experimental Evalution

- Heterogeneousness and volume of the data
  - much is done to provide realistic document collections
- Diversity of users and tasks
  - evalution tasks/tracks are often too “monolithic”
- Complexity of the systems
  - system are usually dealt with as “black boxes”

Experimental Evaluation Needs

- To increase the **automation** in the evaluation process
  - reduction of the effort necessary for carrying out evaluation
  - increase the number of the experiments conducted in order to deeply analyse evolving user habits and tasks
- To study systems, **component-by-component**
  - better understanding of systems' behaviour also with respect to different tasks
- To increase the **usage** of the produced experimental data
  - improving collaboration and user involvment to achieve unforeseen exploitation and enrichment of the experimental data

Experimental Evaluation Needs



Approach

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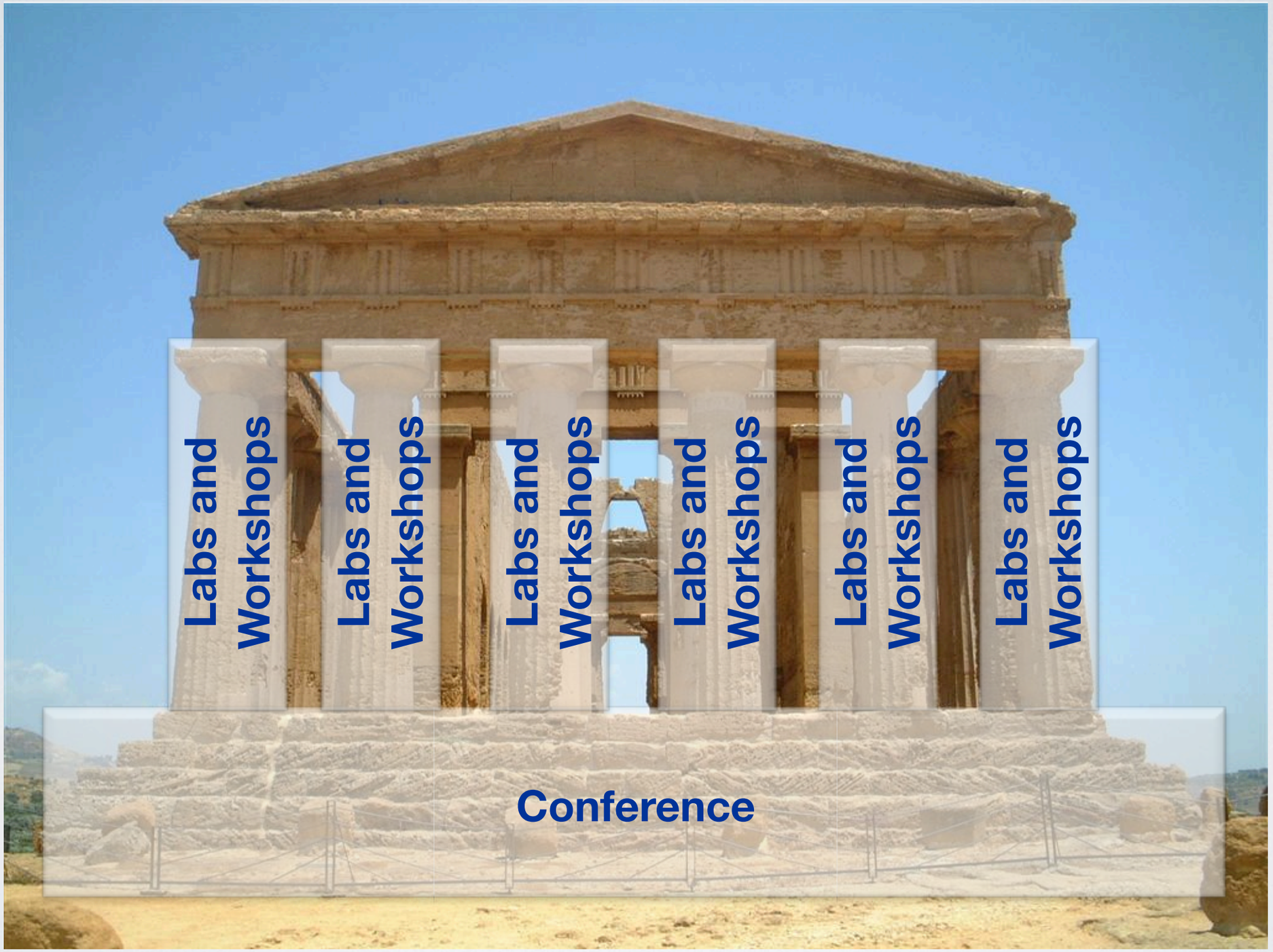
Labs and Workshops
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Conference

Approach

Scientific and Technological Advancement in Multilingual and Multimedia Information Systems
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Scientific and Technological Advancement in Multilingual and Multimedia Information Systems
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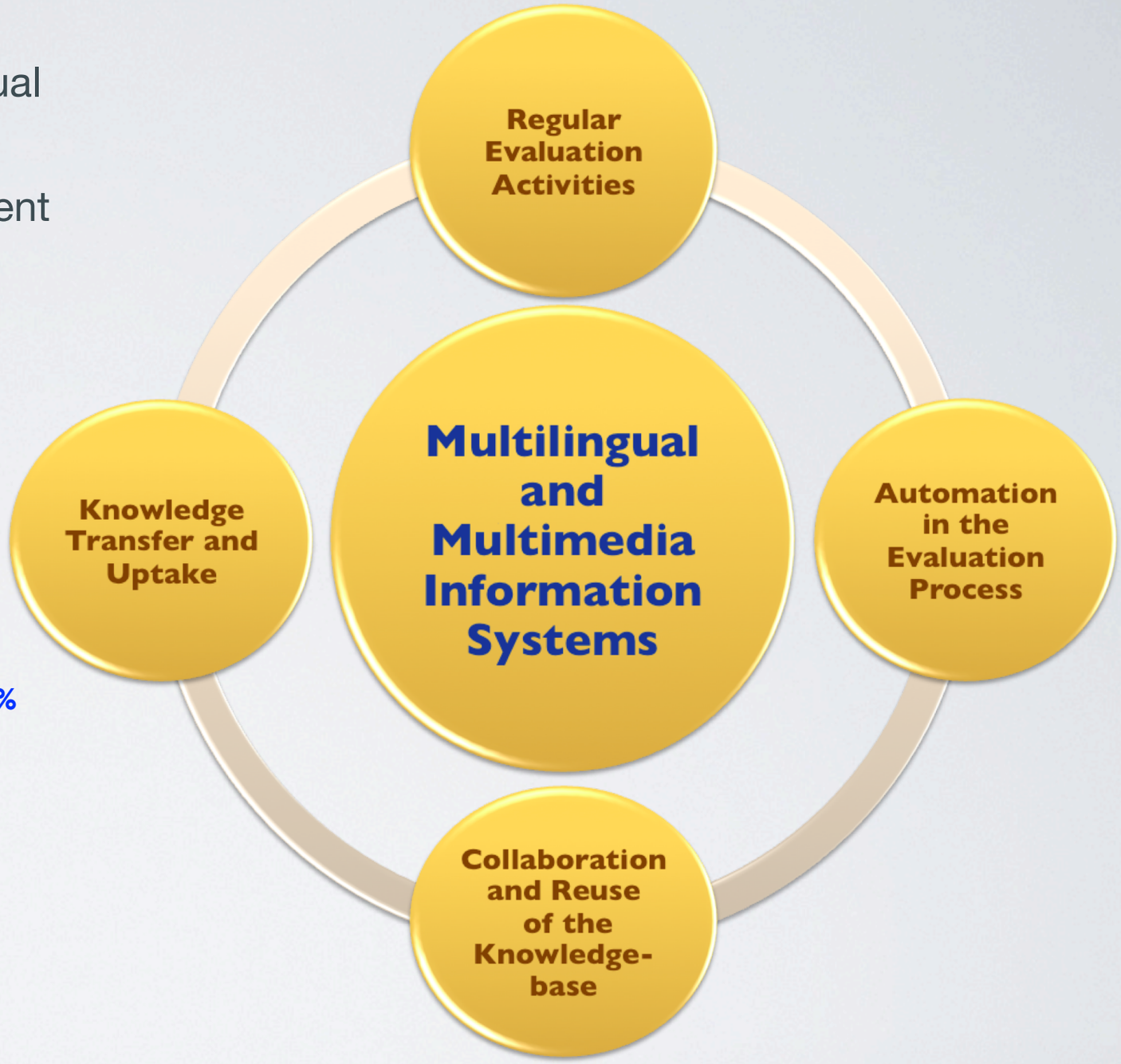
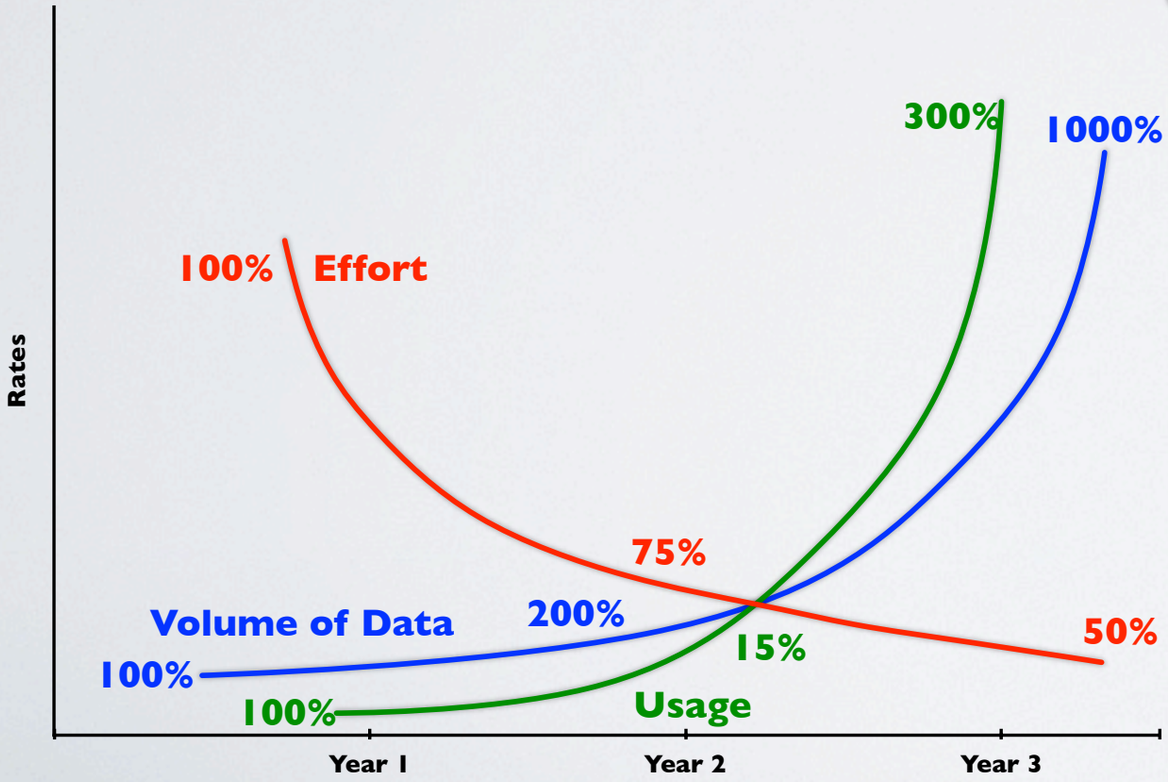
PROMISE: support to CLEF and beyond

- **PROMISE:** Participative Research labOratory for Multimedia and Multilingual Information Systems Evaluation
- **Network of Excellence:** Grant Agreement 258191
- **Duration:** 3 years from 1st September 2010 to 31st August 2013
- **Consortium:** 10 partners
- **Web site:** http://www.promise-noe.eu/