

- » BOOST PERFORMANCE
- » REDUCE COST
- » INCREASE AGILITY
- » ENHANCE CRM
- » SHORTEN TIME TO MARKET
- » DRIVE INNOVATION
- » IMPROVE EFFICIENCY
- » INCREASE ADAPTIVITY
- » ENABLE BUSINESS TRANSPARENCY
- » ENSURE REGULATORY COMPLIANCE



CONSULTING > SOLUTIONS > OUTSOURCING

Innovation and International Cooperation ...the case of Future Internet

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R&D&I Director – Atos Origin

Dubai, October 13th 2010

Bad Times

2008:

- » “It’s the worst economic crisis since the 30’s” ,
Mark Gertler, New York University

2009:

- » “I think [the crisis] is going to last a lot longer
than we have anticipated” – Anne Mulcahy,
CEO Xerox Corp

2010:

- » “After two years of crashing banking systems
and economic recession, the euro zone enters
2010 with a full-blown debt crisis. The
European Commission warns that public
finances in half of the 16 euro-zone nations are
at high risk of becoming unsustainable” – Wall
Street Journal

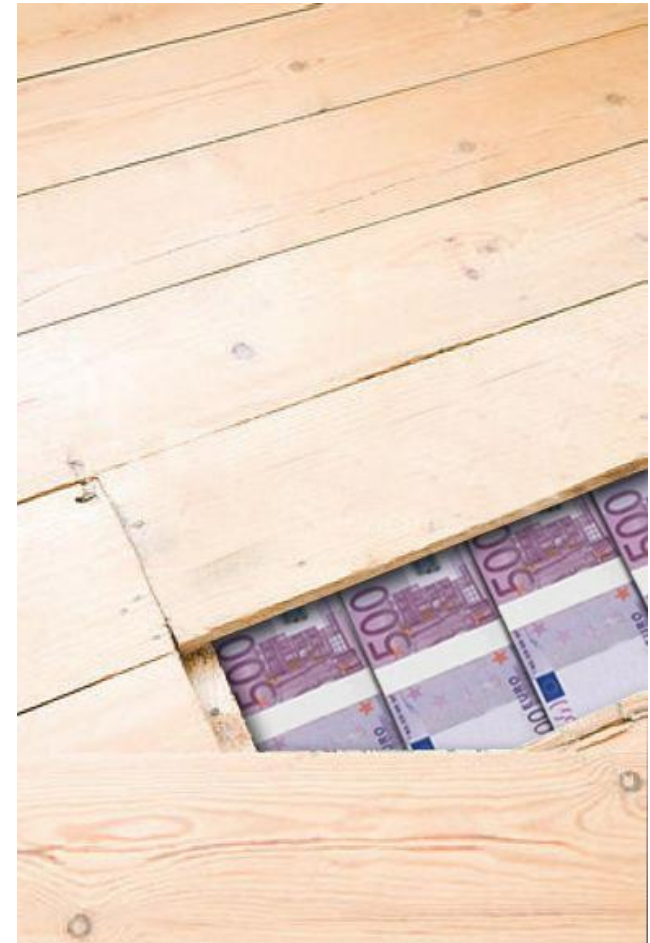


Building a new order (1)

- » Wall Street Journal: three things are needed to bring the deleveraging process to an end:
 - a) Financial institutions must write down the value of distressed assets
 - b) All need to pay off debt
 - c) Capital cushions should be rebuilt

- » How to do that?
 - a) is a tough accounting exercise
 - b) requires new money
 - c) requires new money too

- » But the money ...has not disappeared



Building a new order (2)

- » Where is the money?
 - Some assets are gone,
 - ...but large sums of capital remain
 - ...just some too scared to show up

- » As soon as capital sums show up again, cash will flow again and **b)** and **c)** will be carried out

- » Non-financial parts of the economy must help revitalise the capital flow



The way ahead for Europe

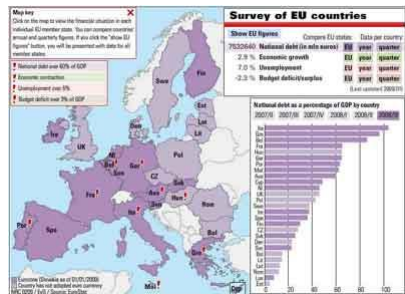
» LEAN methodology states that a **problem** has to be perceived as an **opportunity**

» “La crise, moteur du capitalisme”:

- André Orléan, Le Monde: “Les grandes déflagrations économiques, sociales et monétaires permettent de passer d'un système à un autre. **Le krach de 2007 nous oblige à réinventer un modèle de croissance**”

» Completely new concepts are needed:

- Georg Erber, Readers Edition: “Sollte sich die hier kurz skizzierte Entwicklung realisieren, [...] wie sie sich in der Weltwirtschaftskrise 1929 mit ihren 6 Mill. Arbeitslosen [in Deutschland] auf ihrem Höhepunkt gestellt haben. **Es wird daher völlig neue Konzepte erfordern**”



...-> **Technological Innovation**

The world balance has changed

- » A new way of seeing the countries is needed:
 - John Markman, Money Morning: “By viewing economies through this post-financial-crisis prism, investors can define an investing new world order that is no longer segmented by geography (such as Asia, North America and Europe) or stages of economic progress (emerging and developed markets). Instead, **countries will be categorized according to their financial soundness.**”

- » Not all countries are deeply into crisis:
 - Khaled Oweis, Arabian Business: “A Reuters poll forecast Saudi Arabia would grow 3.9 percent this year compared with 0.2 percent in 2009. The 2010 forecast was 3.3 percent growth for Kuwait and 2.5 percent for the United Arab Emirates, despite its flagship companies have run into financial problems.”

...-> International Cooperation



Innovation is our ahead sign

- » Merriam-Webster defines “crisis” as “an unstable or crucial time or state of affairs in which a decisive change is impending. This definition implies that during times of uncertainty or instability, opportunities, i.e., moments of “decisive change,” may arise. In times of crisis, opportunities emerge, and creativity, innovation, and entrepreneurship are inspired.
- » Supermarkets, laundromats, the car radio, the chocolate chip cookie, the electric dry razor, and the Monopoly game, were invented during the Great Depression. (source: American Journal of P.E.).
- » A crisis challenges “business as usual” and produces an urgency for change.

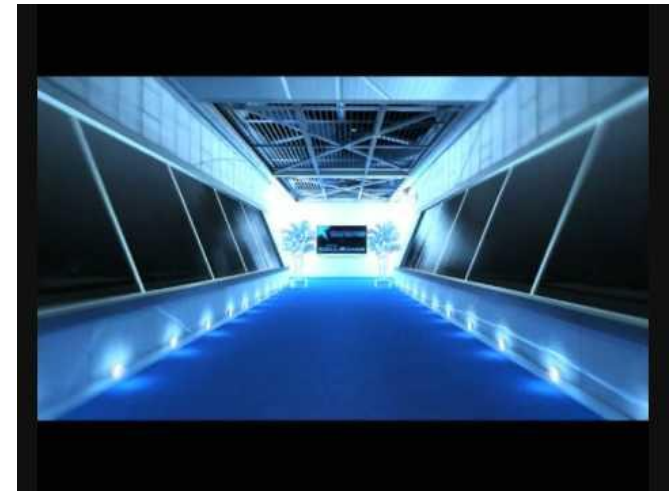


New services should turn up

- » Money will show up as soon as
 - New appealing services are offered
 - Efficient “value for money” rate is shown
 - A trustworthy environment is provided for accessing those services

- » Competitiveness and Innovation are the two engines that will boost the economy

- » That is the challenge of the services to be offered :
 - Attractive
 - Trustworthy
 - Efficient



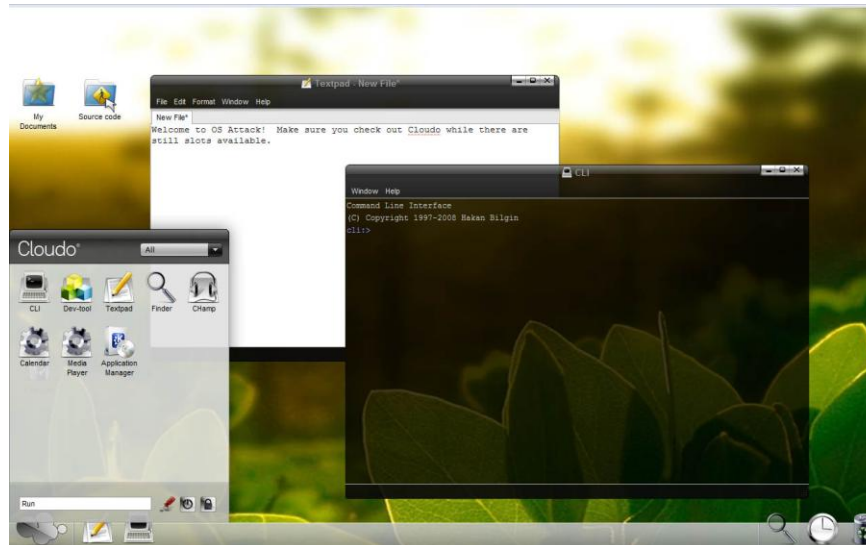
Current Internet

- » In internet... you can do it all now:
 - Current infrastructure almost reaches limits of service and content offerings
- » Is there anything new?
- » Where is the “innovation” that can be offered?
- » How can some “known” be “Attractive”?
- » How can internet be trustworthy?
- » We have to drive Future Internet in the right direction



The time of Future Internet

- » It is the time of a large scale action on Future Internet
- » We have to focus on:
 - Addressing high interest/popular subjects → **impact**
 - Offering added value services not available yet → **attractiveness**
 - Tackling **efficiency** as part of the service added value
 - Providing **trust** in the service access environment



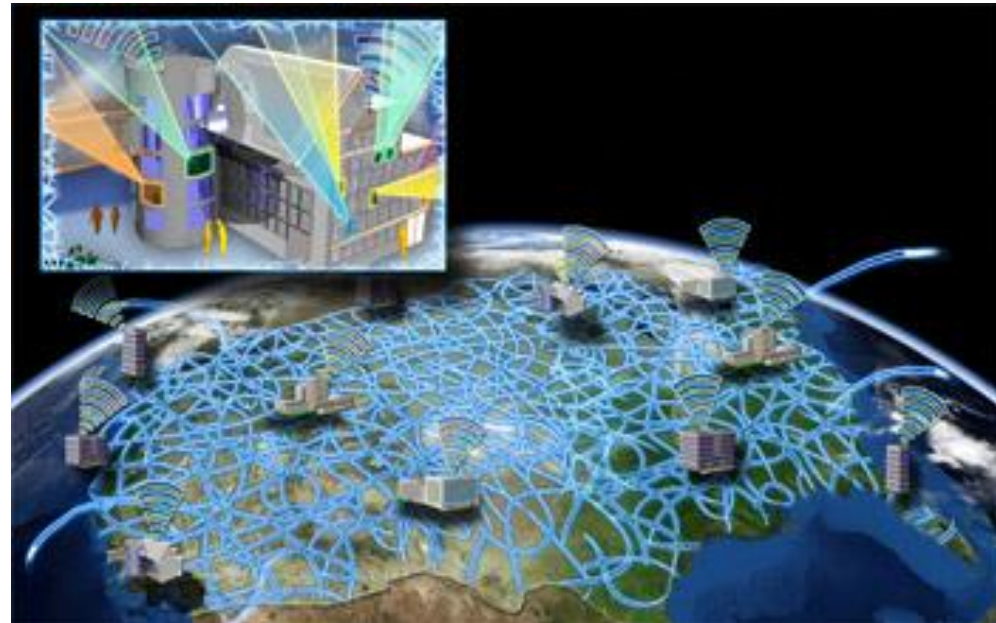
American View on Future Internet

- » Priorities:
 - » Security
 - » Corporate
 - » Media
 - » Business



American View on Future Internet

- » **GENI (Global Environment for Network Innovations)** is a program of the NSF (budget: approximately \$367 million; term: 5 to 7 years). It aims to develop a shared experimental facility (test-bed) for promoting research and development of new Internet architectures or network services. GENI is not a replacement for the Internet. This project foresees a common network foundation enabling multiple network experiments to be conducted simultaneously and independently. It aims to:
 - » 1) resolve problems of the existing Internet architecture concerning stability, security, QoS, and the like,
 - » 2) to construct experimental environments on actual networks using new network technologies, and
 - » 3) to incorporate innovative technologies such as optical, mobile, and sensor technologies.



American View on Future Internet



- » **FIND (Future Internet Design)** is a long-term program of the NSF that started in 2006 (budget: approximately \$40 million). It aims to establish the Internet architecture of the future. While GENI aims to construct a global facility, FIND is focusing on comprehensive network architecture design research. Since individual FIND projects can benefit by using the GENI facility, synergistic results are expected.
- » Overall, FIND is an umbrella program that consists of many relatively small-scale projects like conventional NSF-funded programs rather than a program that aims to establish a unified network architecture. In its initial fiscal year of 2006, FIND allocated a total of \$12 million to 26 projects

American View on Future Internet

- » **SING (Scientific Foundations for Internet' Next Generation)** is concerned with communications, computing, signal processing and network science that provide new foundations for a clean-slate approach to network design.
- » **NGNI (Next-generation Networked Information)** encourages research that can inform the development of both the information systems and the networking technologies that underlie them



Asian View on Future Internet



- » **Activities in JCK (Japan, China, Korea)**
- » **Priorities are mainly technical:**
 - » **Capacity Enlargement**
 - » **Speed growth**
 - » **Problem-solving methods**
 - » **Optimal enrouting**

Asian View on Future Internet

- » **China:**
 - » **CNGI+ (China Next Generation Internet)**
 - » **973 New Generation Internet Architecture**
- » **Japan**
 - » **WIDE (Widely Integrated Distributed Environment)**
 - » **AKARI**
- » **Corea**
 - » **FIF (Future Internet Forum)**
- » **Unifying Effort in the continent:**
 - » **AsiaFI (Asia Future Internet)**



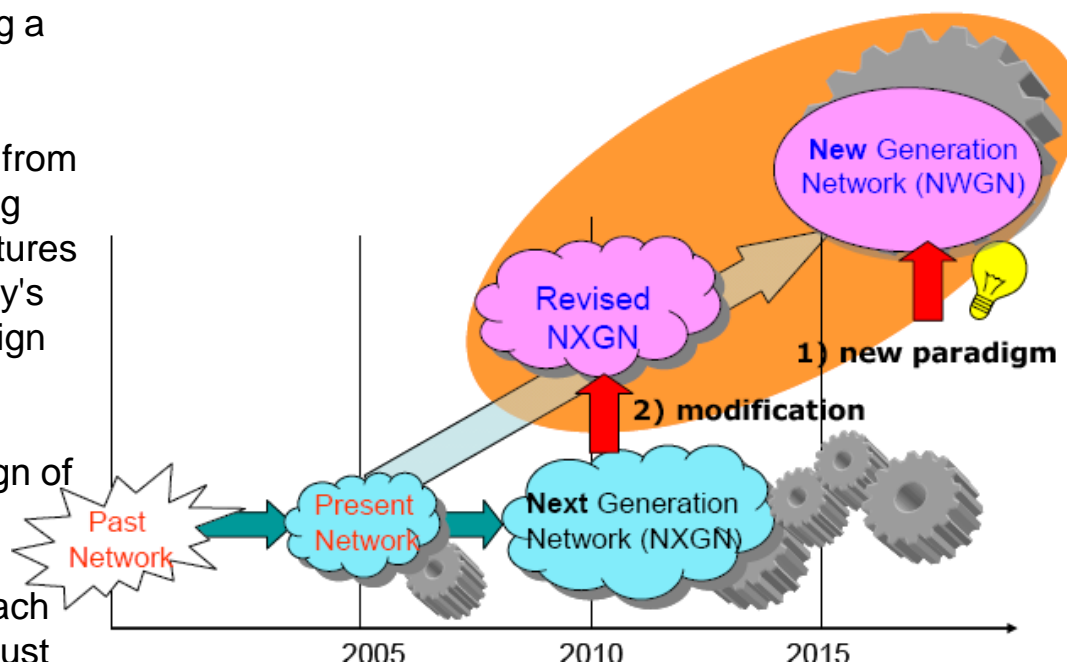
Asian View on Future Internet

AKARI

The **AKARI Architecture Design Project** aims to implement a new generation network by 2015, developing a network architecture and creating a network design based on that architecture.

AKARI researches new network architectures from a clean slate without being impeded by existing constraints. Once these new network architectures are designed, the issue of migration from today's conditions can be considered using these design principles.

AKARI's goal is to create an overarching design of what the entire future network should be. To accomplish this vision of a future network embedded as part of societal infrastructure, each fundamental technology or sub-architecture must be selected and the overall design simplified through integration.



AKARI is the codename for New Generation Network R&D in NICT . (it means "a small light" in Japanese.)

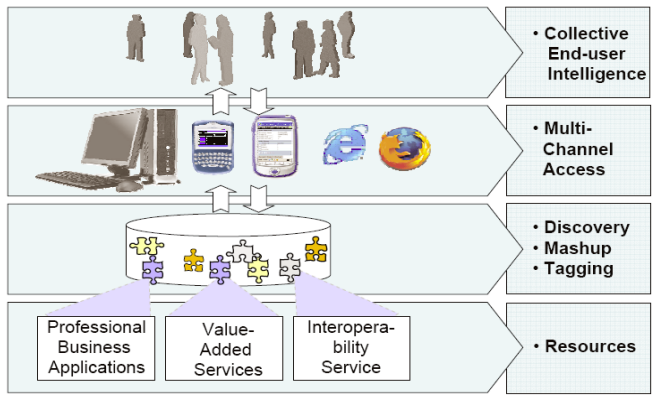
European View on Future Internet



- » **Ideas coming out of the European Union scope are addressing the following aspects:**
 - » **Build upon the idea: “Europe is the largest worldwide economy based on knowledge”**
 - » **Harness the European leadership on mobile communications**
 - » **Go beyond other geographical sites, reaching higher concepts on Internet (of Things, of People) without underestimating the other priorities (security, infrastructure, ...)**
 - » **Work more on Service Engineering**
 - » **Interoperability of data and information addressing the European diversity**

European View on Future Internet

Internet of Services, Service Web



3D Internet



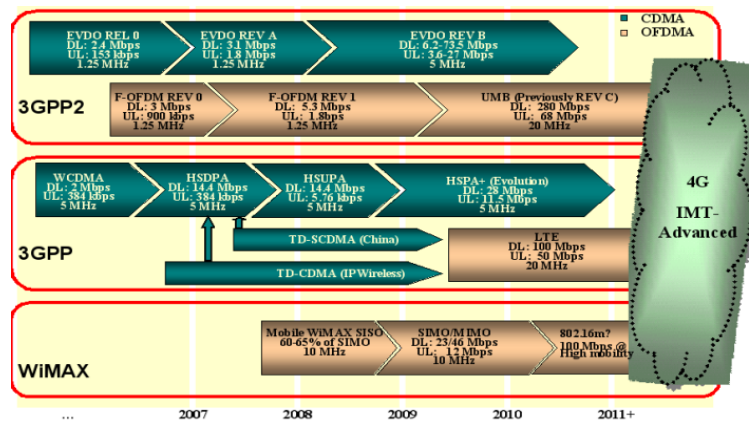
Trust



Security



Internet of Things



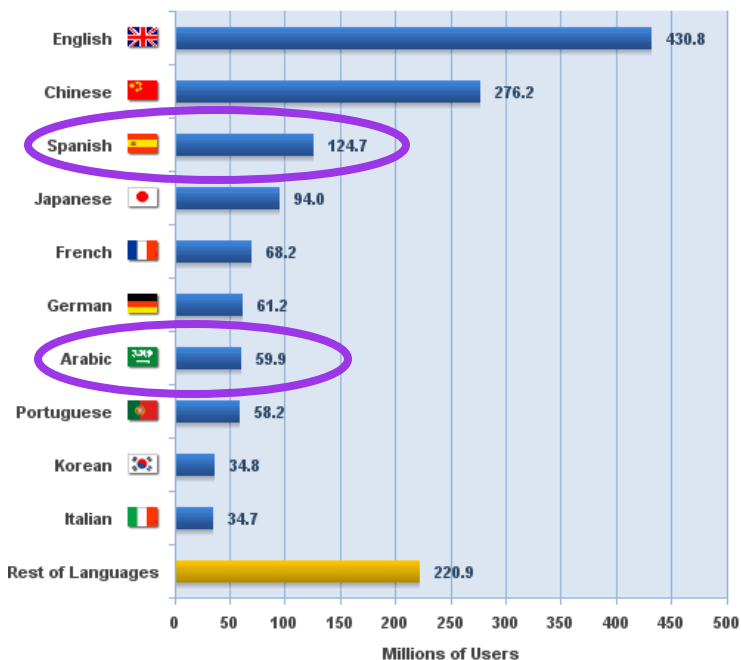
Networks of the Future

Sources: 3GPP, 3GPP2, Qualcomm, WiMAX Forum
<http://www.alexandria.unisg.ch/EXPORT/DL/38496.pdf>
<http://www.itu.int/osg/spu/publications/internetofthings/SecondLife>

And Spain?

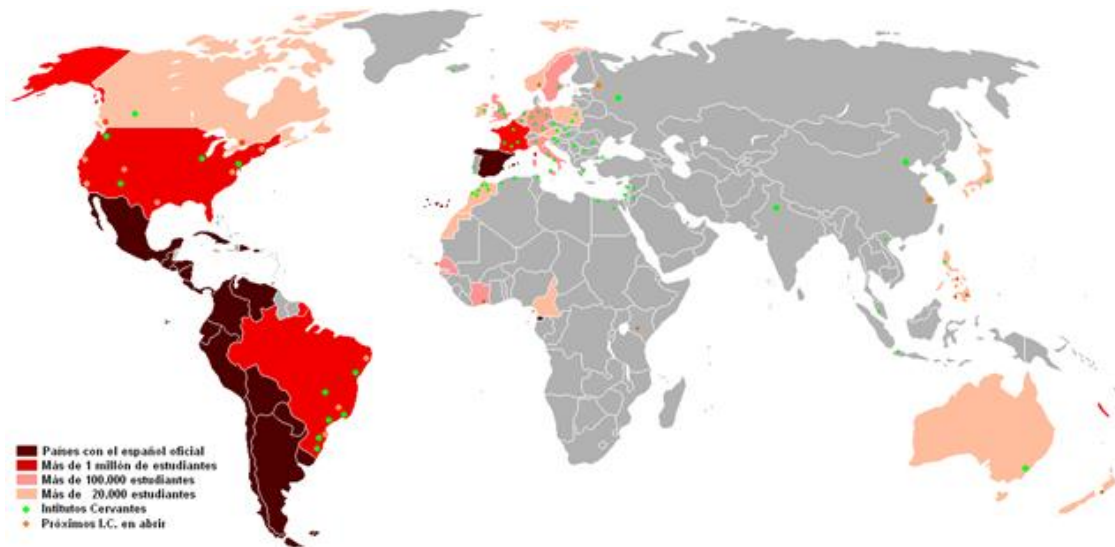
Presence of Spanish in the World

Top 10 Languages in the Internet



Source: Internet World Stats - www.internetworldstats.com/stats7.htm
 Estimated Internet users 1,463,632,361 for 2Q 2008
 Copyright © 2008, Miniwatts Marketing Group

- » The Spanish-speaking community has to define its own way: es.Internet
- » Although Spain is part of Europe, it is NOT Europe, it is the gate to the Americas
- » Third worldwide language on the Internet
- » We have to harness the power of our market



The Decision

BUSCAMEDIA – “Search-Media”

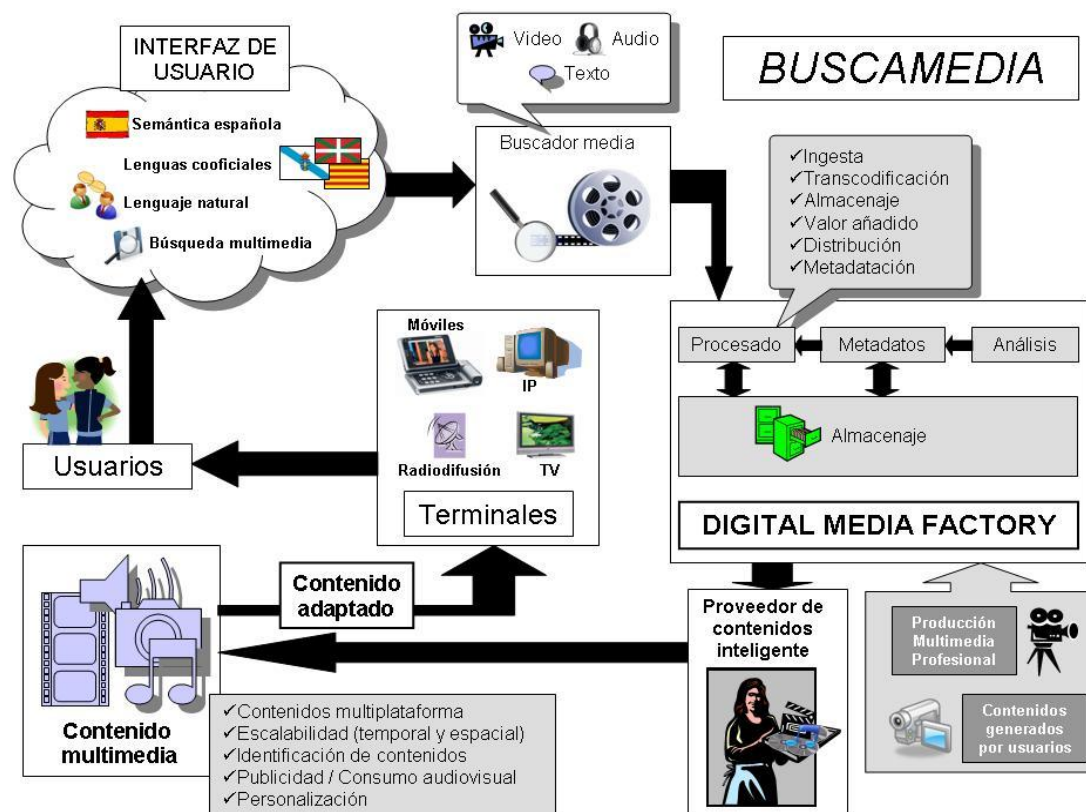
The Spanish government has decided to fund Buscamedia, a new generation search engine focused on the Spanish-speaking community. It was ranked number one in the National CENIT R&D programme, with a budget of 21 million euros.

A semantically enabled search engine focused on media assets (text, images, audio and video) based on:

- An Advanced Annotation System and Heterogeneous Information Fusion System
- M3 Ontology: Multilingual, Multidomain, Multimedia
- Natural Language Processing

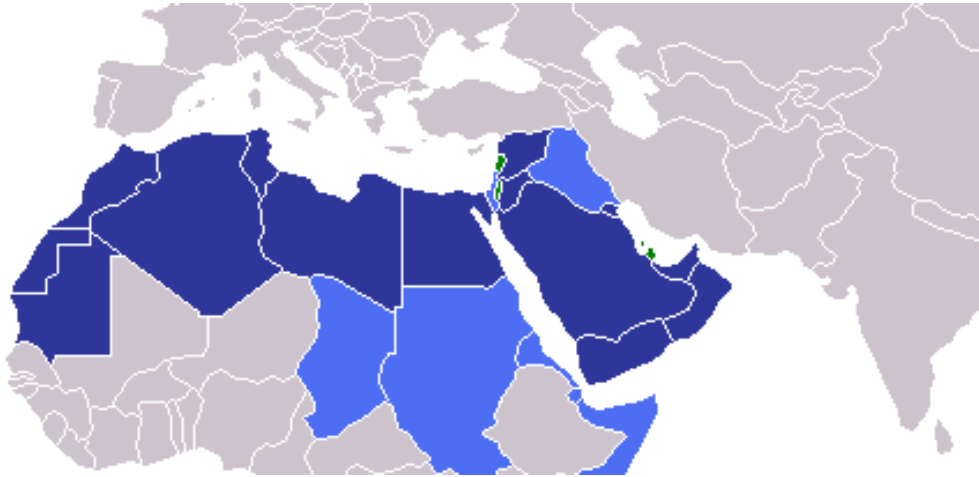
It is adapted to preferences and context by:

- New automatic content generation technologies
- Personalization and contextualization techniques
- Content-adapted layout search result showing techniques
- Advanced user-view exchange which allows converging internetworking



BUSCAMEDIA is called to be “the” search engine of the Spanish-speaking community

Buscamedia in the Arabic community?



- » Arabic is not only the seventh language most spoken on the internet, it is also the common mean of communication of a complete cultural and geographical cluster of countries in the world. Official language in 26 countries
- » Completely different to other languages in structure, alphabet and vocabulary, even writing direction
- » Market niche in steady growth, especially in the Media arena

- » All this community is continuously accessing information services made available by the English speaking community.
- » Most non-Arab communities are unaware of the specificities of the Arab community, and services are not tuned properly to the target user group, a huge, growing, wealthy market.



Looking for partners

- There is a need to **unleash the potential of the Arab community** on the Internet.
- We want to offer **a strong search engine customized to and produced by the Arab community**, that shadows other popular search options on the Net.
- We are looking for partners with the following skills:
 - » Arabic language technological expertise on the internet
 - » Commercial internet experience in the Arab environment
 - » Private Sponsors (it is only migrating and localizing an ongoing project)



- » We have the willingness.
- » We have the technology.
- » We can do it!

...-> If you are interested, contact us

Thank you



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www.atosorigin.com / www.atosorigin.es / www.atosresearch.eu

Screensaver explaining Atos Research & Innovation can be downloaded at www.atosresearch.eu, icon on the right