

Pedro Ferraz de Abreu, PhD

pfa@mit.edu

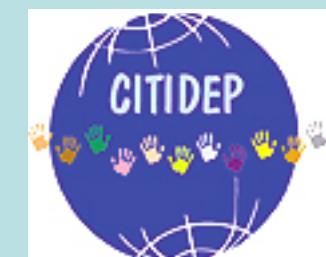
ISCSP-UTL - Instituto Superior de Ciências Sociais
e Políticas



MIT - Massachusetts Institute of Technology
[DUSP](#)



CITIDEP - Centro de Investigação de Tecnologias
De Informação para uma Democracia Participativa
<http://www.citidep.pt/>



Água com Cidadania e Tecnologia: Agitar, não (basta) Misturar *(Shaken, not Stirred)*

A) Contexto para o papel das TIC

B) As TIC ao Serviço dos Cidadãos

C) As TIC e as Políticas da Sustentabilidade

A) Contexto para o papel das TIC

Que tem de especial a nova geração das TIC?

Table 7.3.1.-1 - Period before broadcasting

>600 BC	The abacus (=arithmetic unit of CPU) is invented in China
387 BC	Foundation of Plato's Academy
1450	Printing press invented (Johannes Gutenberg)
1876	First telephone patent (Alexander Bell)

Table 7.3.1.-2 - Period between broadcasting and microcomputer + world wide network

1906	First broadcast of human voice, AM radio (Reginald Fessenden)
1930	18 million radios owned by 60% USA households
1936	Regular TV broadcast begins in UK
1956	72 % USA households own a TV
1968	First ARPANET (IMP), installed at UCLA (precursor to INTERNET)

Table 7.3.1.-3 - Period after microcomputer + world wide communications network

1971	First microcomputer in USA
1972	Created the InterNetwork Working Group, creating the INTERNET
1975	First Personal Computer (PC) introduced
1991	First Internet Web Server and Web Browser (CERN)
2001	529 million people on-line (Internet)

O “enabling factor” (factor de potenciação) dos desenvolvimentos TIC no que respeita aos Modelos Sociais de Decisão

In (Ferraz de Abreu), 2002 "New Information Technologies in Public Participation: A Challenge to Old Decision-making Institutional Frameworks"

Tecnologias de Informação	Atributos	Modelos de Decisão
voz	<ul style="list-style-type: none"> • de "poucos" a "poucos" • alcance limitado 	<u>democracia directa</u>
manuscrito	<ul style="list-style-type: none"> • sem processamento auxiliar • acesso barato, universal • custos de controle baixos 	imperios heterogenios
imprensa	<ul style="list-style-type: none"> • de "poucos" a "muitos" • alcance ilimitado 	<u>democracia representativa</u>
radio	<ul style="list-style-type: none"> • com processamento na fonte • acesso muito caro, restrito 	ditaduras homogenias
TV	<ul style="list-style-type: none"> • custos de controle medios 	
rede satelite	<ul style="list-style-type: none"> • de "muitos" a "muitos" • alcance ilimitado 	<u>democracia participativa</u>
rede fibra optica	<ul style="list-style-type: none"> • com processamento na fonte e no destino 	
μcomputador	<ul style="list-style-type: none"> • acesso custo moderado, potencialmente universal • custos de controle altos 	ditaduras tecnocratas

A) Contexto para o papel das TIC

As novas TIC desafiam o quadro institucional
e regulador

A) Contexto para o papel das TIC

TIC desafiam o quadro institucional e regulador

Modelo hierarquico administração pública em causa;

Pressão da Democracia Participativa sobre a Representativa;

Deslocação dos centros de poder em função do domínio da nova tecnologia e novo conhecimento;

Erosão da soberania do Estado (dificuldade de controlar difusão);

Novas regras do jogo / dinâmicas na economia da informação.

A) Contexto para o papel das TIC

*Porque dar importância à
consulta pública?*

- Para otimizar decisões?
 - A questão dos leigos em decisões técnicas
- Para o desenvolvimento sustentável?
 - A questão dos custos da consulta pública
 - A questão da monitorização e “enforcing”

A) Contexto para o papel das TIC

Public Participation Review:

- **Selznick** (administrative vs. substantive)
- **Vlachos** (awareness, involvement, participation)
- **Glass** (information exchange, education, support building, decision-making supplement, representational input)
- **Frankena, Kennard** (role of the expert)
- **Costs of no participation**
- **ELITIST VS. INCREMENTAL GAINS**
- **LEGITIMACY + QUALIFICATION**

A) Contexto para o papel das TIC

Sistema de valores:

ex. A dicotomia leigo-perito

- O que é um perito
- Quem qualifica o perito (caso do astrónomo)

A) Contexto para o papel das TIC

Sistema de valores - ex. choque de culturas



- Conservação vs. desenvolvimento (Olmstead)
- Esquina - maldição ou benção

Problems in EIA and Role of Information Technologies:

1. Transmitting and accumulating experience

- Metadata
- Multimedia Knowledge Base
- Expert Systems
- Rule-based models
- Case-based models, with FAQ ("Frequently Asked Questions")

2. Integrating multi-disciplinary and multi-organism processes

- Virtual office
- Multiple-domain Knowledge Representation
- Shared inference engine

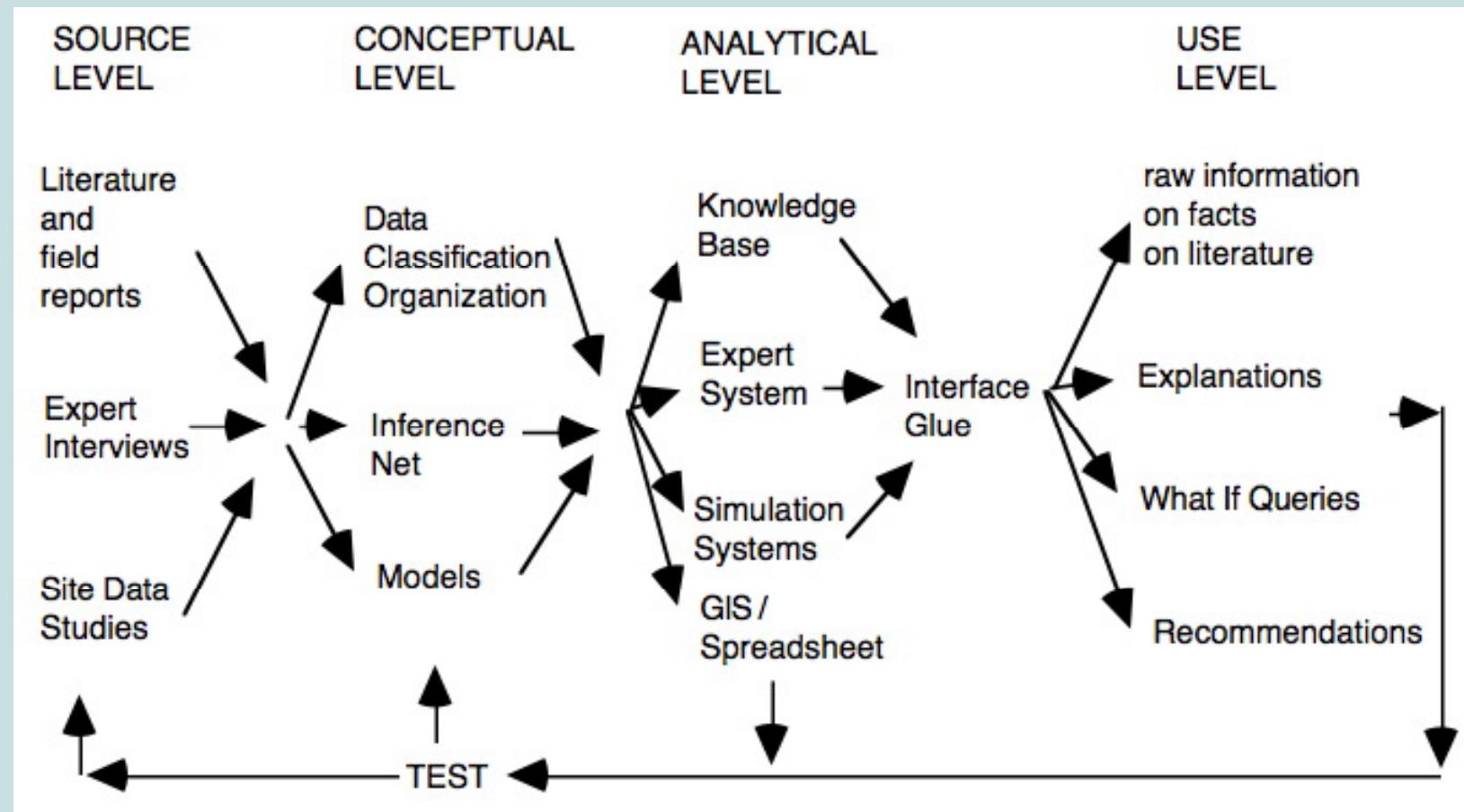
3. Satisfying a wide range of audiences

- Hypermedia reports
- Multi-level information trails

4. Limitations of current "Fora" for dialog and interactive analysis

- "Blackboard" vs. "Star" process
- Network (WWW) based tools

A) Contexto para o papel das TIC



B) As TIC ao Serviço dos Cidadãos

(Exemplos)

- **Os 3 modelos de ciencia participativa** (*GLOBE, PEOPLE, SETI*)
- **Apoiar o processamento/análise no destino** (*CITIDEP - Kit Cidadania*)
- **Acesso à informação (produção e consumo) sem intermediários** (*CITIDEP - IMS*)
- **Monitorização por cidadãos, com e sem intermediários** (*MONAE*)



B) As TIC ao Serviço dos Cidadãos

Projectos CITIDEP, MIT (Exemplos)

- IMS - Sistema Multimedia Inteligente para Apoio à consulta publica ([actualização](http://www.citidep.pt/ims/)) www.citidep.pt/ims/
- PEOPLE-Cidadania www.citidep.pt/act/peoplecitidep.html
- **EuroLifeNet** (em curso) www.eurolifenet.eu
- **Kit Cidadania** (standby) www.citidep.pt/act/citikit.html
- **Sabor/Coa** (standby) www.citidep.pt/act/sabor.html

www.citidep.pt



B) As TIC ao Serviço dos Cidadãos

Problemas da Consulta Pública em AIA

- Carácter multi-disciplinar dos EIA
- A dicotomia leigo-perito e o Resumo Não Técnico (RNT)
- A dificuldade de acesso directo de um cidadão aos responsáveis técnicos e políticos
- As limitações do processo de consulta (efeito “*tunel*” e efeito “*muro das lamentações*”)

B) As TIC ao Serviço dos Cidadãos

TIC como ferramenta para desenvolver “knowledge capacity”

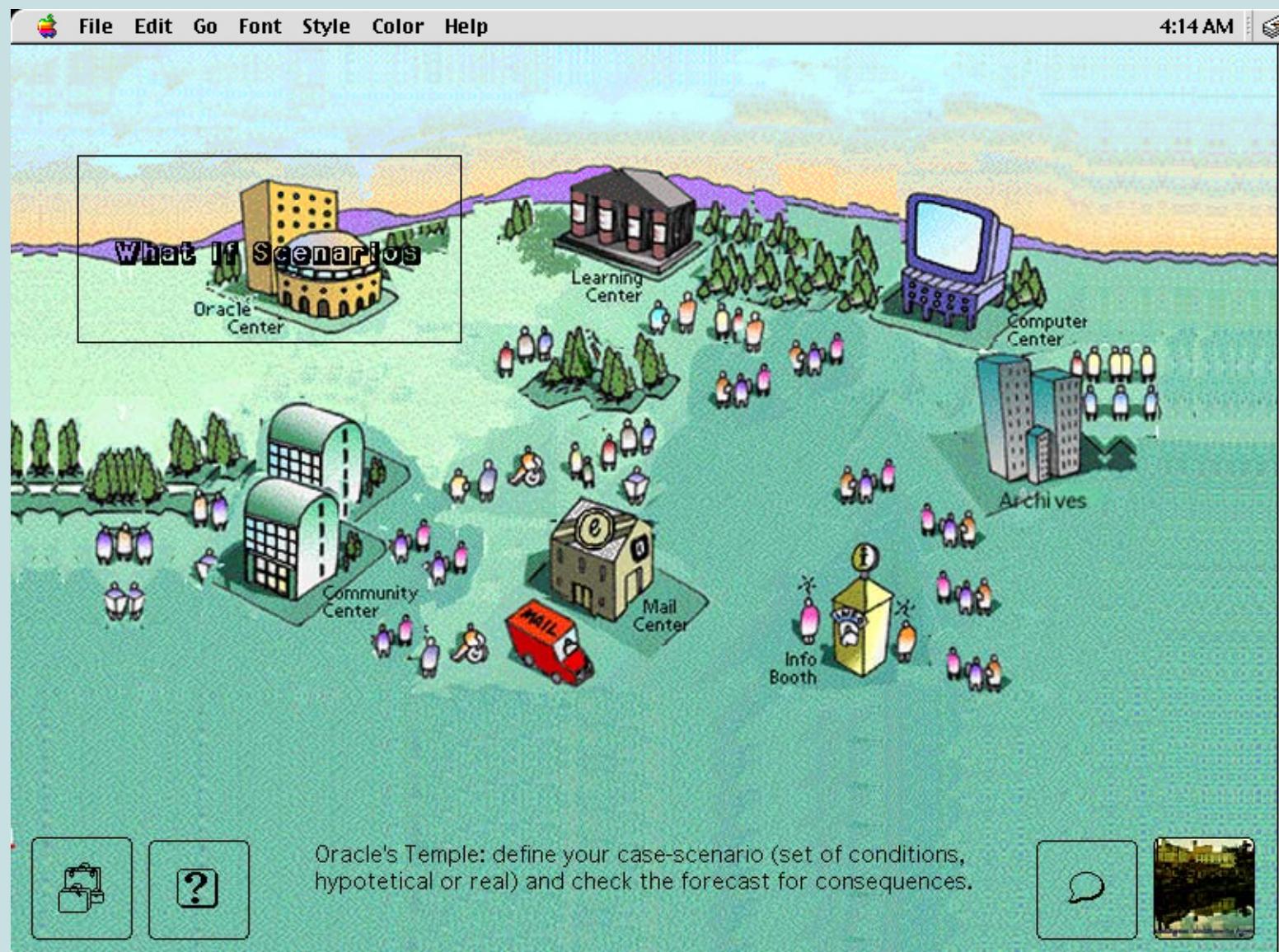
Projecto CITIDEP com MIT:

- **IMS - Intelligent Multimedia System for Public Consultation**
- <http://www.citidep.pt/ims/>



- Projecto IMS
(Intelligent
Multimedia
System)
- *Sistema
Multimedia
Inteligente* para
apoio a consulta
pública em
**Avaliação de
Impactes
Ambientais**





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4:16 AM

Experts

Deve considerar-se que o estudo agora em discussão corresponde de facto a uma avaliação de impacte ambiental dum sistema de gestão de resíduos?

João Joana de Melo, GEOTA
 Luis Alves, Valorsul
 Madalena Presumido, Pipeline Engineering PLE

Office Area

Valorsul

GEOTA

Pipeline Engineering PLE

Problem

PR di

Click for more

Quit

Help

About

Problem list

Madalena Presumido

Quais são as prioridades na gestão de RSU?

Qual é a estratégia de gestão de RSU proposta pela VALORSUL?

Há alternativas ao projecto? Quais?

Deve considerar-se que o estudo agora em discussão corresponde de facto a uma avaliação de impacte ambiental dum sistema de gestão de resíduos?

Para que serve a incineradora do projecto e das cinzas sólidos? Não fique com cinzas sólidas da incineradora.

ExpertCard

Madalena Presumido
 Lic Ambiente Resíduos sólidos,
 Faculdade de Ciências e Tecnologia
 FCT-UNL

Pipeline Engineering PLE (Consultant)

ExpertCard

resposta da entidade

O Estudo de Impacte Ambiental da Central de Incineração de Valorsul avalia, obviamente, os impactes da Central. A avaliação dos impactes de um sistema de gestão integrada só seria possível com uma complexa análise de ciclo de vida que teria de quantificar impactes de, por exemplo, extração, transporte e queima de

Click for more

Avalia à Valorsul uma gestão

Go back

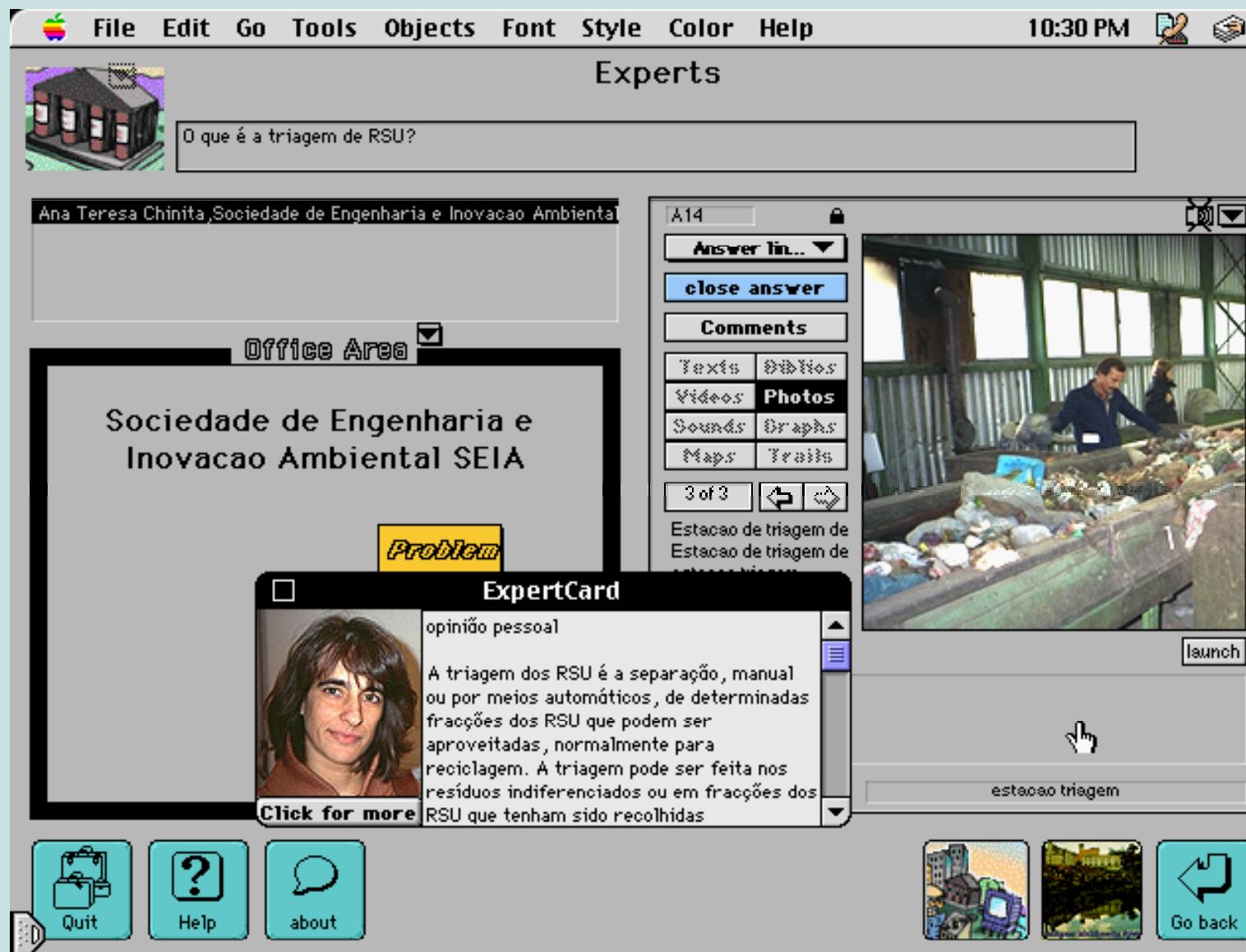




Table 5.13.4.-1 - Knowledge Test grade results

	Environmental students Average grade	Psychology students Average grade	GRADE GAP Environmental - Psychology
Before using IMS	39.2	28.2	11
After using IMS	43.7	35.7	8
GRADE JUMP	4.5	7.5	

In (Ferraz de Abreu) , 2002 "New Information Technologies in Public Participation: A Challenge to Old Decision-making Institutional Frameworks"

B) As TIC ao Serviço dos Cidadãos

IMS + WCD framework

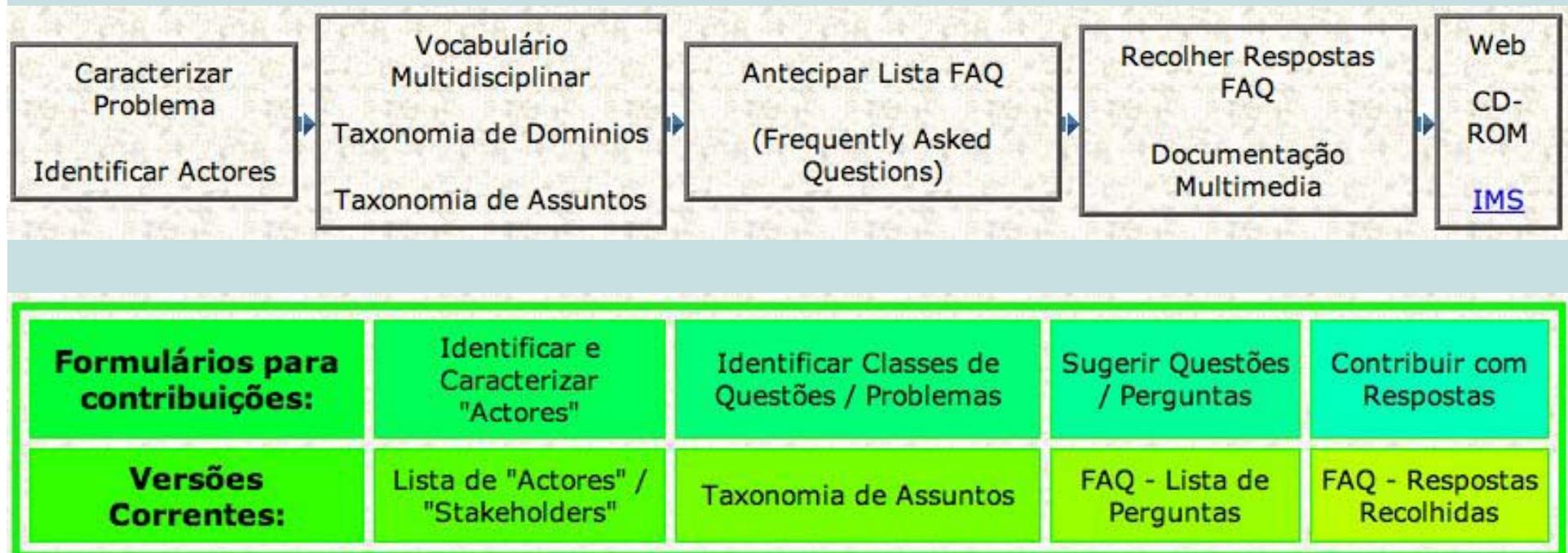
Projecto CITIDEP:

- "**WCD / IMS**" - Caso Sabor/Coa
- <http://www.citidep.pt/act/sabor.html>



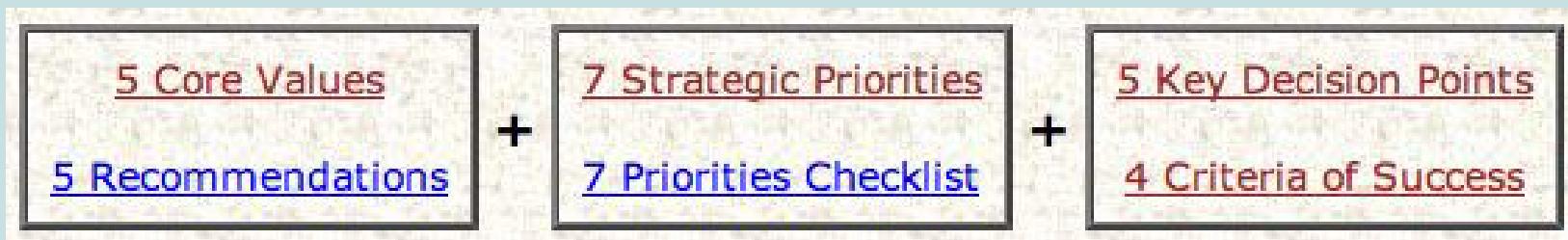
B) As TIC ao Serviço dos Cidadãos

"WCD / IMS" - Caso Sabor/Coa



B) As TIC ao Serviço dos Cidadãos

"WCD / IMS" - Caso Sabor/Coa



Core Values

- Equity
- Efficiency
- Participatory decision-making
- Sustainability
- Accountability

B) As TIC ao Serviço dos Cidadãos

Figure 8.1 The WCD's seven strategic priorities



B) As TIC ao Serviço dos Cidadãos

A process may be deemed successful if it has been, and has been seen as:

- *Fair*: all key stakeholders perceive the process and outcomes to be fair and legitimate.
- *Wise*: the process is fully-informed, making best use of available knowledge, and continuing to make best use of knowledge over time.
- *Efficient*: the process and the solution are both cost- and time-effective, making best use of available resources.
- *Stable*: the agreement is likely to endure and can be adapted – a sign that it maintains its legitimacy.⁶

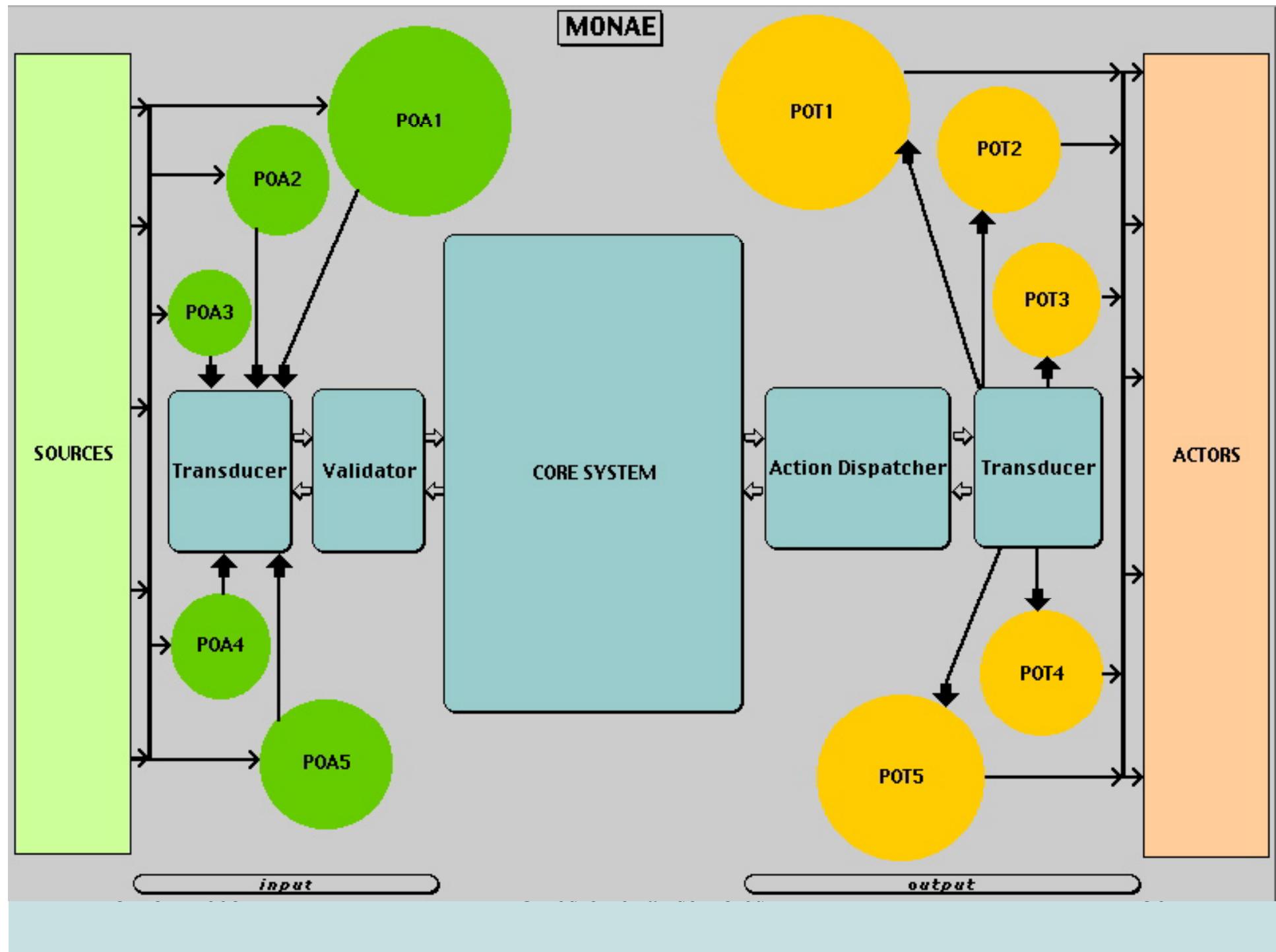
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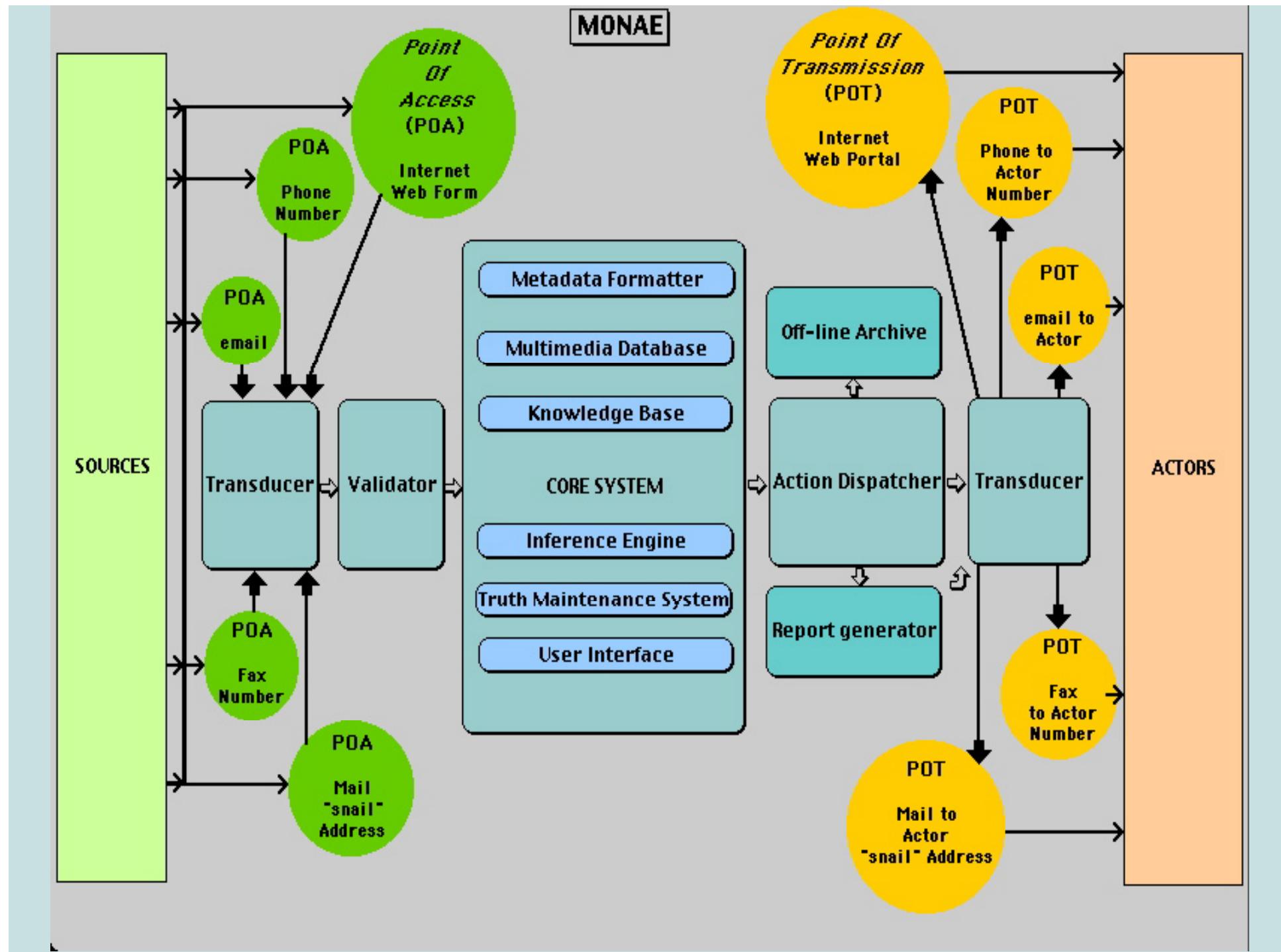
TIC como ferramenta para Monitorização Participativa

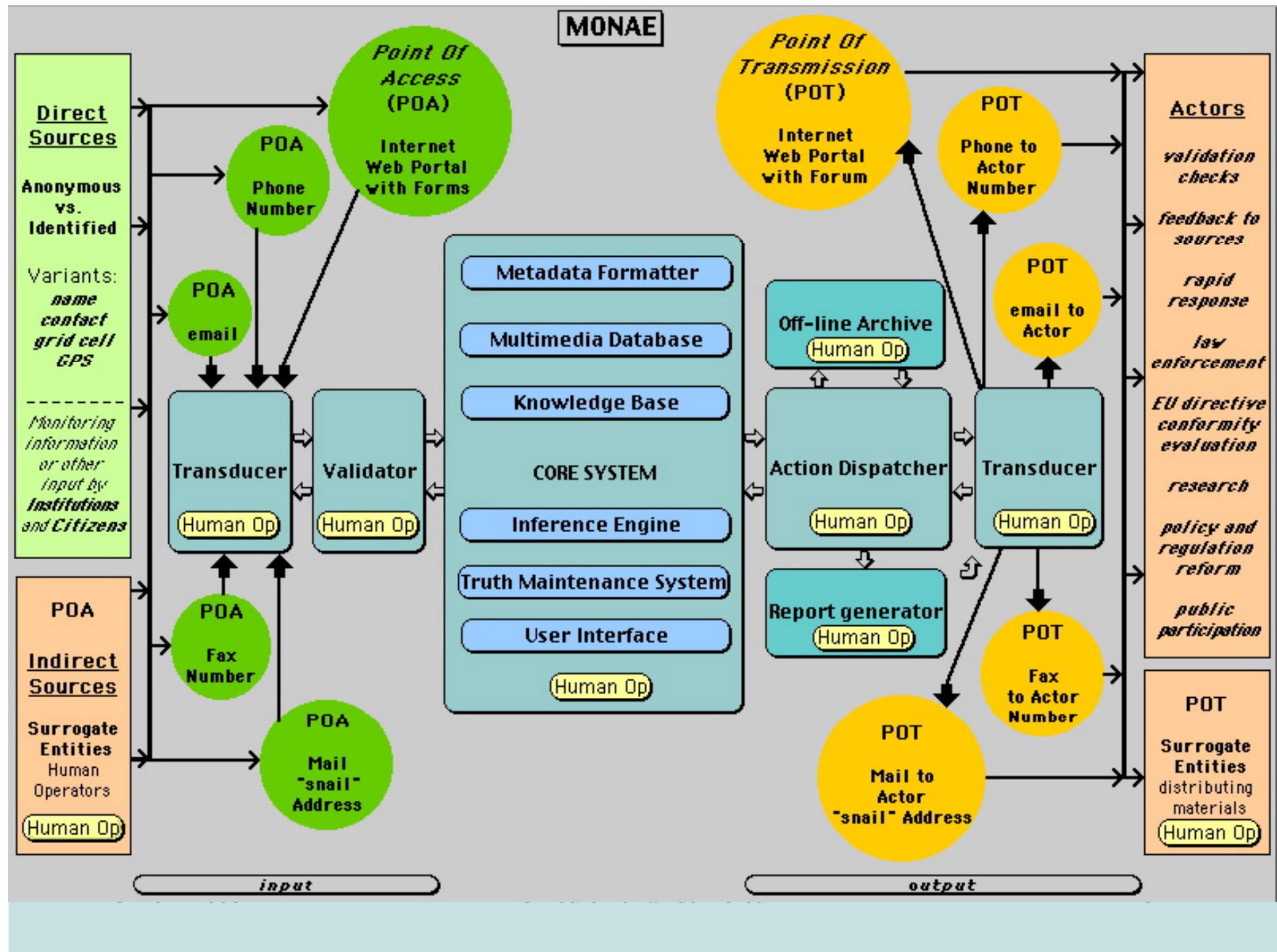
Projecto MONAE:

**Monitoring Plan for Water Quality and Ecology
for Portuguese Transitional and Coastal Waters**

www.monae.org









CITIDEP - Research Center on Information Technology and Participatory Democracy

**ENVIRONMENT - HEALTH - CITIZENSHIP
EDUCATION FOR SUSTAINABLE DEVELOPMENT**

PART I - *CITIDEP REPORT ON:*



PEOPLE - Population Exposure to Air Pollutants in Europe

PART II - *CITIDEP PROGRAM:*

EURO-LIFE-NET

NEW PROGRAM and PILOT PROJECT



CITIDEP - Research Center on Information Technology and Participatory Democracy

ENVIRONMENT - HEALTH - CITIZENSHIP EDUCATION FOR SUSTAINABLE DEVELOPMENT

Needs:

Personal Exposure Data

Raising Awareness

Promoting Citizenship

Teaching Experimental Sciences

Problems:

Expensive, Resource-hungry

Often Superficial, Non-sustained

Political correct does not work

Requires resources & motivation



CITIDEP Activities Before 22 October 2002

15 October 2002

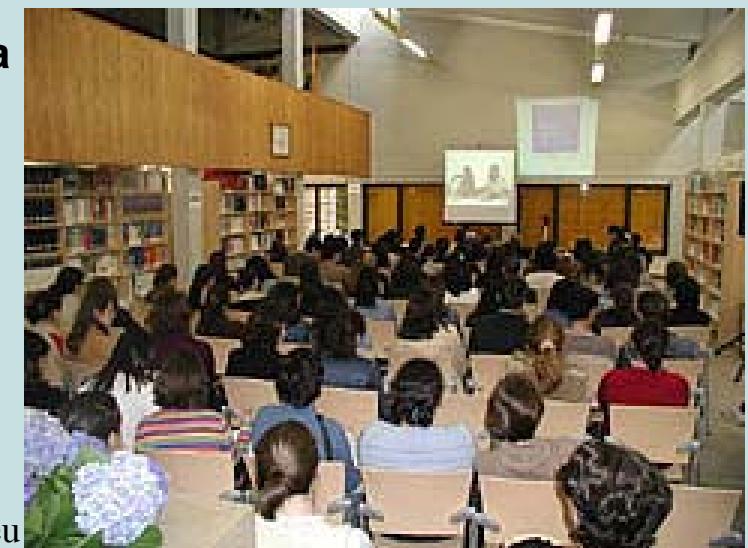


Activity: Videoconference and Internet Broadcasting, with PEOPLE's expert, for students from the 10th grade



<- Lisboa

Viana ->





2003 Highschool students work with Elementary school students



Students in Lisbon say goodbye
to students in Viana do Castelo

PEOPLE Videoconference
and Internet broadcasting II
with chat for students
from the 2nd and 3rd grade



Activity: “ The air exists,
although we can't see it”

3 Abril 200



CITIDEP - Research Center on Information Technology and Participatory Democracy

**ENVIRONMENT - HEALTH - CITIZENSHIP
EDUCATION FOR SUSTAINABLE DEVELOPMENT**

EURO-LIFE-NET

***NEW PROGRAM [2005 - 2014]
PILOT PROJECT [2006 - 2007] - with kind support from IES-JRC***

IES - Institute for Environment and Sustainability / JRC - Joint Research Centre - UE



EURO-LIFE-NET:

CITIDEP PROGRAM

In each School in the EuroLifeNet, groups of students lead by a teacher will “adopt” each an “**EuroLifeNet Node**”, and keep a regular record of indicators measured on this Node.

Node ID: School, GPS Long/Lat/Z, type

Nodes may be indoor or outdoor

Bio-Physics measures at the Node

Socio-economic measures in a circle (or grid) centered at the Node

Composite data (tracing data around the node, eg. students carrying sensor 24h measuring personal exposure, with diary)



Program timetable: Set-up (2005-06) ; Pilot Project (2006-07) ; Expansion (2007-2010)



EURO-LIFE-NET:

CITIDEP PROGRAM

All “**EuroLifeNet Nodes**” share their data and integrate it at multiple scales, “feeding” different uses and aggregate records. Procedures can be incorporated in curricula.

Adoption of common data protocols

Data validation procedures with institutions

Sets of tool kits for schools and teachers

Use of integrating tools and architectures*

Events inter-schools and public awareness

Scalable + modular, easy procedure to join

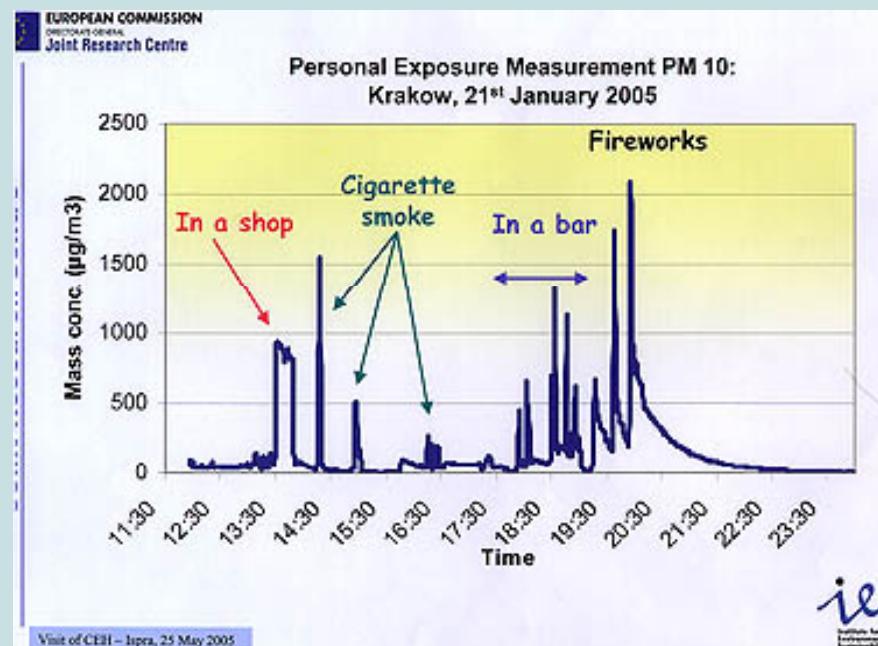




EURO-LIFE-NET:

CITIDEP PROGRAM (with IES-JRC kind support)

The electronic nature of the portable samplers allows for easy data extraction, network sharing and analysis. Together with a diary and GPS data, this will be a powerful tool both for scientists and teachers.



3 Abril 2008

Download movie file
© Pedro Ferraz de Abreu
<http://www.citidep.net/mov/PMportsampler.mov>

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EURO-LIFE-NET:

CITIDEP PROGRAM (with IES-JRC kind support)



LISBOA CLUSTER :





EURO-LIFE-NET:

CITIDEP PROGRAM (with IES-JRC kind support)





EURO-LIFE-NET:

CITIDEP PROGRAM (with IES-JRC kind support)



LISBOA CLUSTER :



C) As TIC e as Políticas da Sustentabilidade

Para os choques tecnológicos resultarem, é fundamental conhecer:

- A natureza específica das novas TIC
- Os seus impactes institucionais e processuais
- Os custos da info-exclusão
- Os custos da não participação pública

Não basta despejar tecnologia em cima...

C) As TIC e as Políticas da Sustentabilidade

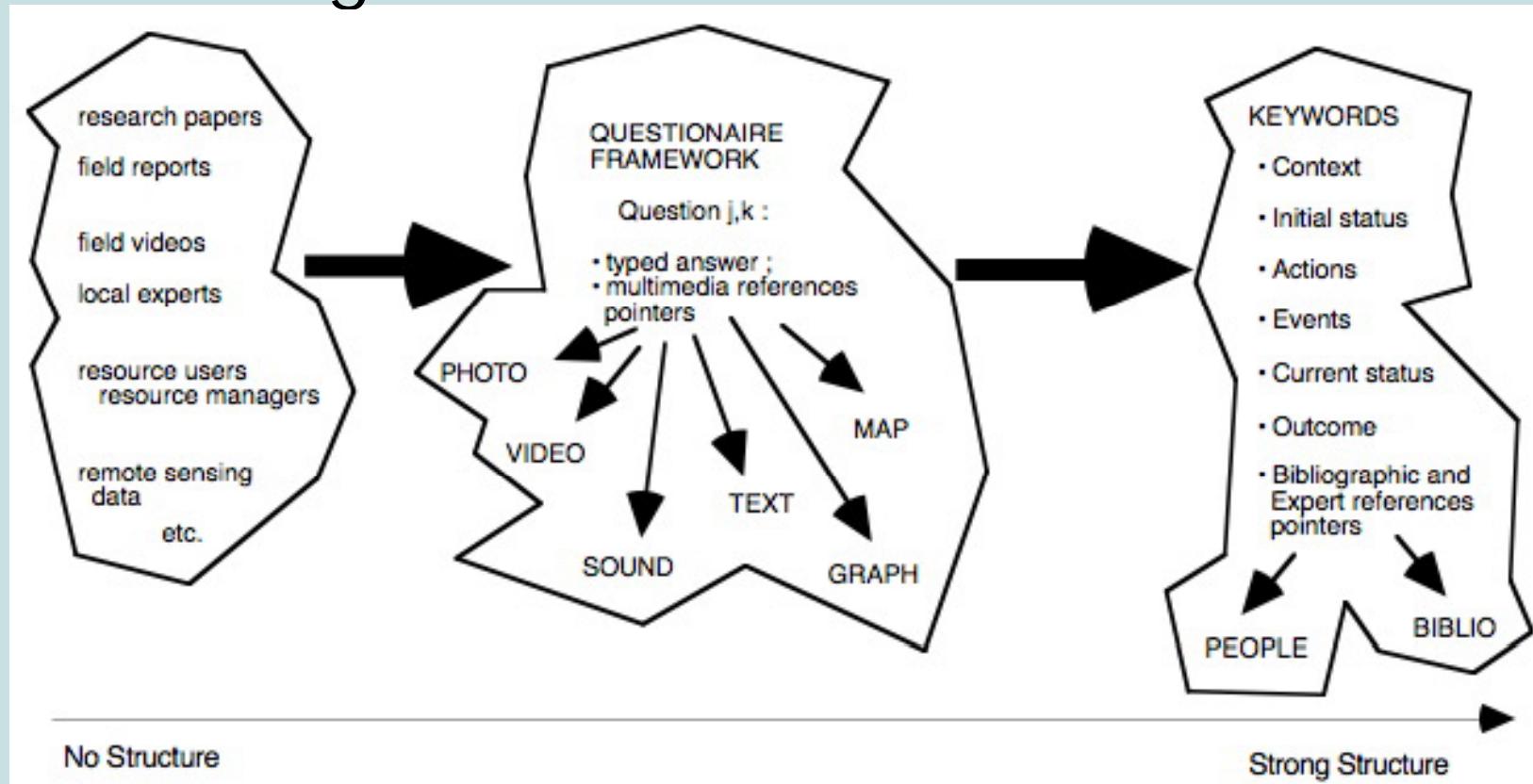
CASE-BASED RESEARCH:

- **Case identifier** (usually a name). Serves as index key;
- **Context** (resource type, geographic location,etc.);
- **Initial status** (conditions at a date defined as the beginning of the research period);
- **Actions** (deliberate, controlled human intervention impacting on the resource and its users);
- **Events** (non-deliberate, non-controlled natural or social changes impacting on the resource and its users);
- **Final status** (conditions at a date defined as the end of the research period, if past, or the current date);
- **Outcome** (degree of success or failure, which may be user defined);
- **Experts** (persons contributing with information).

C) As TIC e as Politicas da Sustentabilidade

CASE-BASED RESEARCH:

Knowledge-base model



C) As TIC e as Políticas da Sustentabilidade

MIT-Portugal / e-Planning Agenda

e-planning knowledge infrastructure	mapping the Portuguese knowledge society / mapping the planning knowledge.
e-planning for the government of the future (e-government)	more efficient and responsive, closer to citizens, better enabling role, better e-government
e-planning for a new governance (e-governance)	better services towards the common good, better institutions, better regulations for a truer market and handling market failures, better balance security vs. freedoms and liberty, more equity and less exclusion
e-planning for the city of the future (e-city)	better quality of life, new functionality, breed innovation, more attractive and competitive
e-planning for a new citizenship (e-citizenship)	enabling a better informed and educated citizen, more participative, more critical, more responsible

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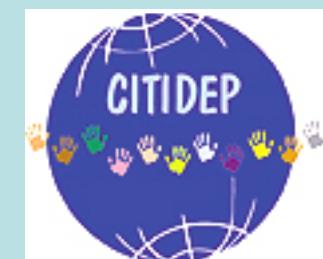
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