Recent progress in the field of dissemination within the National Institute of Statistics (INS), Romania
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Abstract

For any state, for any organisation, information means power. The "networks' network" that we are all calling Internet occurred due to the people's needs of knowledge and due to the evolution of information technology.
The evolution of a society depends on the level of acquired knowledge and this situation entailed the cons truction of a knowledge-based society. From the early stages of Internet implementation, with all its facilities – e-mail, e-commerce, e-transaction, e-learning, e-library, e-governance – we are all belonging to an information society.
In view to create knowledge-based society and economy, the e-Europe initiative envisages certain core objectives: free, quick and safe public access to information, learning and encouraging the public to use the Internet and increasing government awareness of the benefits of using the Internet alongside the governance process.
Due to its exponential proliferation, the Internet makes all these achievable.
The on-line dissemination is a new way of keeping the public informed with statistics and it was entailed by the users' need s. We could ascertain that this is the present and not the future as far as dissemination is concerned. The changes noticed over time in public needs of information, as well as the feedback we received have twisted our arms to continuously improve and adapt the statistical system and the dissemination means to the new requirements. The statistical information dissemination depends on the new researches and developments of information technology and communications. The electronic dissemination via internet is and will still be the most important solution, both at present and in the future, for the society information.
The web dissemination of information will contribute to the development of information society where everyone could create, access, use and share information and knowledge, thus allowing the community for using at maximum the existing potential in view to upgrade their life quality and to reach sustainable development.

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1. Introduction

For any state, for any organisation, information means power. The "networks' network" that we are all calling Internet occurred due to the people's needs of knowledge and due to the evolution of information technology.
The evolution of a society depends on the level of acquired knowledge and this situation entailed the construction of a kn owledge-based society. From the early stages of Internet implementation, with all its facilities – e-mail, e-commerce, e-transaction, e-learning, e-library, e-governance – we are all belonging to an information society.
In view to create knowledge-based society and economy, the e-Europe initiative envisages certain core objectives: free, quick and safe public access to information, learning and encouraging the public to use the Internet and increasing government awareness of the benefits of using the Internet alongside the governance process.

A huge amount of information is collected, processed, structured by social and economic themes, stored and finally disseminated towards the public via Internet . The access to information is ensured by the new means off ered by the information technology , by the new tools, multimedia facilities, mass-media channels and predefined dissemination standards ; due to its exponential proliferation, the Internet makes all these achievable .

INS Romania is concerned about building up facilities for the access to statistical information stored in statistical databases, via the web page of the institute . This is a new and modern solution in the web area, for providing the public, t he businessmen, the academic environment and the international bodies with quick and safe access to a huge amount of statistical information.

Statistical information plays a major and well -defined role on the information market . The information technology novelties in the web area led us to new concerns abou t providing new services, such as electronic commerce on the web for the representatives of the business environment. It is a fast solution for the on -line access and purchase of statistics that has a major contribution to shortening the time lag and the d istance necessary for acquiring the desired information. The web application developed by INS is user-friendly, accessible to everyone, readily available and adapted both for domestic and external users, being at the same time flexible and supporting any f urther improvements.

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2. Information society and the Internet

The web dissemination of information will contribute to the development of information society where everyone could create, access, use and share information and knowledge, thus allowing the community for using at maximum the existing potential in view to upgrade their life quality and to reach sustainable development.

Information technology is a key factor towards the progress of all economic and social fields, appreciated as an indispensable infrastructure el ement.
Information and communications technology should be seen as supporting tools for the processes taking place in any organisation . Under favourable conditions , these technologies could be a powerful tool for increasing productivity , for the economic g rowth, for creating new jobs and for an improved life quality . The new information and communications technologies promote the dialogue between people, nations and civilisations .
The solutions provided by information technology revolution are seen nowadays as benefits that could be shared between developed countries, developing countries and societies .

The educational system, the knowledge and the information technology are the core factors of human welfare. The youth is the future labour resource of a na tion, the leaders of creating and

adopting the information and communications technology developments . Alongside their evolution, youth represents students, developers, contributors, entrepreneurs and decision makers.

The information and communications tec hnologies have a tremendous impact upon all the aspects of our life . The fast progress of these technologies completely opens new opportunities allowing for the achievement of high development levels . The capability of these technologies to diminish severa l traditional hinders, particularly in terms of time and distance, makes possible their use to the benefit of millions of people all around the world .

The elements of information community are the following :
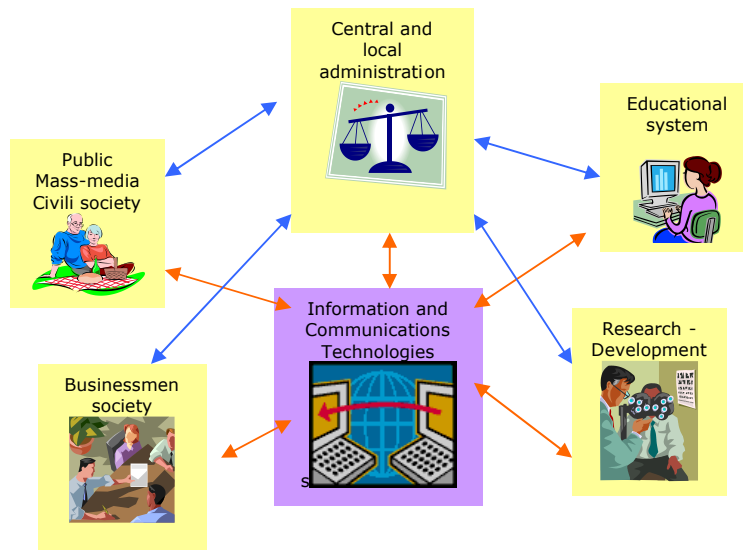
Communication is a fundame ntal social process, a basic human necessity and the basis of any society or organisation . It plays a core role within the information society . Everyone, everywhere, should join the opportunity to participate and none should be excluded from the benefits provided by information society .

An information society is a society where the information production, management and dissemination are significant in economic and cultural terms . The specific of this society is the key position of information technology th rough its inflow in production and economy . The Information society is, in fact, the successor of the industrial society .

3. Towards a new generation called INTERNET

The web and e-mail services are only two of the applications offered by the Internet.

The Internet of tomorrow will play a crucial role in the development of the European initiative *e*Europe, where the information society services are available , via intuitive interfaces, for everyone, everywhere .

The web solutions for creating and disseminati ng information provide :
- higher speed and security – two of the priority policies of *e*Europe initiative;
- availability on several software platforms – the web solutions are more accessible to more and more people, on more technological –platforms;

- a stronger tool – the research in IT field supports revolutionary uses of computers, at the same scale with the e-mail and the web that brought a revolution in information communication and publishing.

The advantages offered by information society – the society of the future, impose certain issues of top priority, namely:
- setting up a new regulatory framework,
- promoting a new culture and the intrepid spirit,
- acquiring the leadership position in the new technologies,
- training people and implementing new business methods.

The European Union strategy related to "information society" was drawn up based on promoting the *e*Europe plan of actions, with the following objectives:

Faster, cheaper and safer access to the Internet

Efforts are still needed in view to:
- significantly reduce the tariffs of Internet access to the lowest level practiced at world level,
- reduce the prices for rented access lines by intensifying competition,
- provide access to high speed Internet, intranets and extranets,
- encourage the development of information infrastructure.

Networks security and smart cards promotion

In view to improve population trust in the use of electronic services, a higher attention should be paid to the security of network applications by using smart cards, both within the public and the private sector. Smart cards are used in view to secure electronic payments, the access to Internet via mobile phones, public transport services, public phones, and electronic payment of taxes.

Stimulating the Internet use

Speeding up the electronic commerce regulations through:
- adopting EU legislation on copyright, marketing of financial activities at distance, electronic payments,
- setting up electronic markets for the public sector acquisitions,
- increasing the consumers trust through the adoption of a behaviour code of Internet providers, through the development of own regulations.

Investments in human resources and competences

Each citizen should have the necessary skills for living and working within the new information society. The European educational and training systems should adapt themselves to the knowledge-based society.

The following measures are conceived in view to provide all pupils with the opportunity of acquiring the IT when finalising their studies:
- ensuring the availability on the Internet of support services and of educational resources, of electronic programmes for teachers, pupils and parents (for example, access for deprived children, access to the cultural patrimony in digital format, multimedia documents in various languages, collections of best practices);

- adapting the school programmes so that to include new learning methods (eLearning);
- training of teachers in view to use digital technologies.

The dissemination of statistical information via the web page provides opportunities for finding electronic solutions for public services; this type of services facilitates the conclusion of transactions from a single access point, instead of going to various institutions or of accessing several web sites.
The information society has several components that should raise users' interest and confidence. The citizens' identification and authentication, data protection, fighting off electronic frauds and e-commerce are to be regulated.

The successful implementation of certain web solutions for statistical information dissemination is outlined by the following features:
- open and universal systems – the solutions should be based on Internet standards easily accessible everywhere, to everyone,
- consumer tailored systems – through systems of management concerning the relationships between information providers and users – the information expected by users could be analysed and afterwards the high quality services could be delivered.

4. INTERNET as support of dissemination

The existence of the National Institute of Statistics on the INTERNET area is imposed by Romanian legislation which requires the presence of all institutions belonging to central and local public administration and the dissemination of public interest via INTERNET (*Law no. 544 of October 12th, 2001 on the free access to public interest information, Law no. 365/2002 on electronic commerce, Law no. 455 /2001 on digital signature, Government Decision no. 1085/11.09.2003 on the implementation of the provisions of Law nr. 161/2003 on certain measures aiming at the implementation of the National Electronic System, etc.*) as well as by the European legislation in this field.

Statistical information holds a well-defined and recognised position of information market. The continuous development of the INTERNET, of the techniques and technologies based on which this network is functioning, the widespread and the increased speed of accessing information provides new opportunities for a more active presence of the INS in the national and international economic environment.

At present, the information becomes the most valuable asset of a society. The management of information, of any type, its provision/procurement at the right place and time could give competition advantages to any organisation.

During the recent period, all the National Statistical Offices were concerned about developing electronic dissemination systems (publishing statistical databases with various inquiry interfaces) in view to meet customers' requirements and preferences, their technical skills and the appropriate use of IT equipment technical features.

Nowadays, the number of INTERNET users is continuously increasing, all the **„*electronic customers*"** should simply <<*log on*>> to INTERNET and could almost instantly acquire the information they need or, alternatively, they could automatically receive statistics, via „dissemination lists", based on subscriptions to the „Newsletter".

In this context, we have to stress the importance of th e development and maintenance of INS web site, which enables the communication with the public from everywhere .
The information flow is twofold :
- from INS towards the users through the flow of published statistical information and,
- from users towards the INS, both through the flow of expressed requirements, desired topics, and ways of purchase and through the collection of statistical data based on electronic questionnaires .

The World Wide Web (www) technology gives the opportunity of disseminating informa tion: faster, better, more, cheaper .

New services...

For rendering statistical services via INTERNET, material and financial efforts are required . However, once these efforts are made , the dissemination of statistical information via INTERNET becomes cheaper than the dissemination through traditional means .
The website updates or the transfer of .html or .xml files via FTP entail much lower costs than editing publications on paper support or electronic publications; even if we are not taking into account the postal tariffs much higher than those of electronic transmission .

... new resources

Building up/redesigning the INS website involves, inevitably, financial and human resources . Financial resources are required in view to procure the IT platform (hardware and software), while human resources are necessary, well trained in web technology , web servers management (WinNT, LINUX), client/server technology, TCP/IP networks, FTP, security, partitioned access to ORACLE and MSSQL databases, software for Java, PHP, C++ programming, specialised software for web design, specialised software for WebGIS applications (AutoDesk MapGuide, ArcIMS).

The products and services provided on the Web should be designed in a specific format for electronic dissemination . The services based on INTERNET technology incorporate the push-pull smart technology and must be well thought and designed , permanently envisaging the interpretation/reading technical abilities of INTERNET users from everywhere .
The changes occurred over time in citizens needs for information , as well as users feedback represent a continuous challenge for the statistical system improvement and adaptation to these new information requirements .
Due to the need of having a more functional architecture and a wi der content of statistical figures, we are concerned about redesigning the INS website in view to support the dissemination activity with modern methods and information technologies .

5. A privileged user of the Internet – mass- media

Through its policy of disseminating the statistical information , the National Institute of Statistics pays a special attention to the relationships with mass-media, the main vector through which statistical data become available to the whole population .

These relationships are regulated through a set of operational procedures envisaging the core issues and working methods for all the components of this process, applied and pursued in current activities.

Within this framework, the development of relationships with media mainly envisages direct communication, that is the transmission of press releases, under embargo, before the hour when these become public officially, as well as the answers to punctual requests, with maximum timeliness, towards written and audiovisual press.

In this sense, we have a complete availability, under a regime of full transparency and mutual observance of working principles, as natural follow up of two-way relationships, the INS permanently keeping track of the modality of turning into account statistic al information and interceding, if the case is, in view to reach accurate presentation and interpretation in the media. The only limitation in providing information to the media is the natural one, entailed by the work hours of the institution. Quite often, however, particularly in case of radio or TV broadcasts, the press needs statistical data and information beyond the work hours of INS. This impediment, a natural one, is overrun nowadays by enriching the statistical data funds accessible at any time on the INS website. These could be freely taken over by media, with only one obligation, of citing the source and of using, for their interpretation, the available metadata portfolio.

IN the sense of the same collaboration to the benefit of users, INS agreed upon the inclusion on various publication web addresses of links allowing for directly accessing the INS website, thus facilitating the statistical information flow towards users.

6. INS Website – current and future concerns

INS Romania is permanently concerned about providing statistics users with information from all the social and economic fields. In this sense, the website of our institute is daily updated with statistical information and it became, overtime, a web portal. The visitor could find statistical data resulting from statistical surveys, statistical publications (the Statistical Yearbook of Romania, Territorial statistics, Monthly bulletins, etc.), press releases, statistical questionnaires and methodologies. There are several important sub-sites presenting the results of the Population and Housing Census 1992 and 2002 and of the General Agricultural Census 2002, the site of statistical nomenclatures of national interest (CAEN, CPSA, PRODROM, SIRUTA) – the visitor being allowed to download th ese nomenclatures in .dbf or .xls format and the sub-site for intra-community, INTRASTAT. A major component of the INS website, recording a high number of visitors and contributing to the dissemination of statistical information at local level is represented by the sites of regional and county statistical offices; these include a huge amount of statistical information at county and regional level, organised by social and economic fields.

Our concerns about meeting the statistical information users' require ments do not stop here! We are seeking for and we are building up new solutions for providing statistical data users with more information, either free of charge or with charge. The current website was launched in April 2007 and, as compared to the former one, it was significantly improved in terms of design, architecture, contents and ways of accessing information. In view to enrich the website contents, the facilitation of public access to the indices database and to statistical database Tempo-online was envisaged, these databases presenting about 1000 statistical indicators, in form of time series (beginning with 1990 – to date), with annual, quarterly or monthly frequency, at national, regions of development, county and locality level.
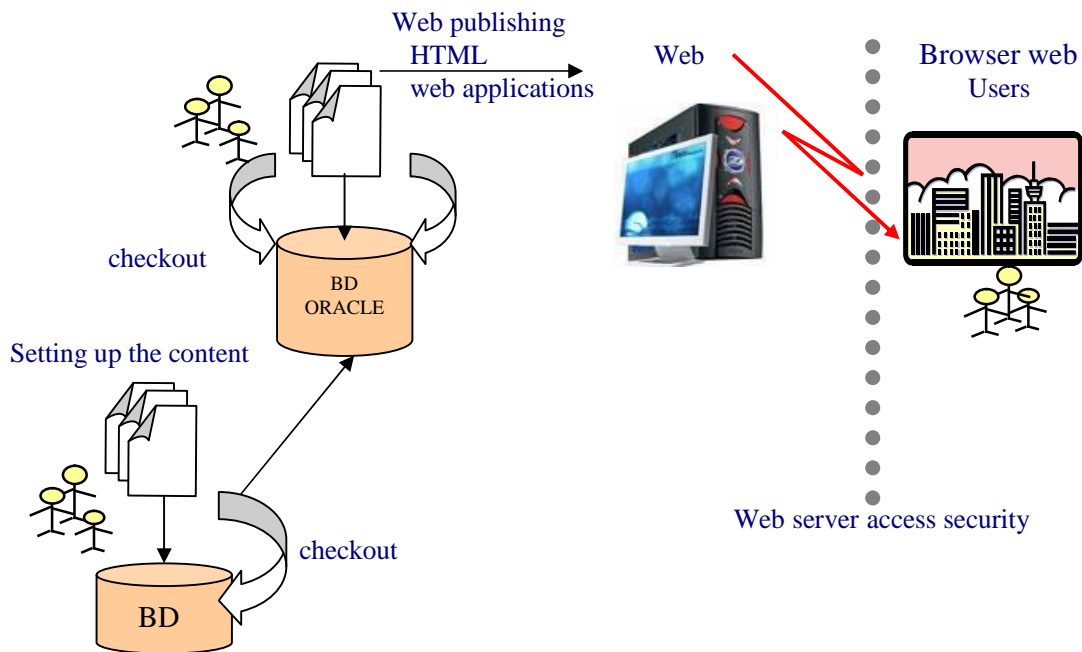
The access to Tempo-online database is free of charge for the indicators of wide interest and for those aggregated at national level. A major component of the access to Tempo-online database is the electronic commerce, allowing for the access under charge to the statistical ind icators detailed at the level of groups and subgroups of statistical characteristics or of administrative -territorial units. Further to the visualization and selection of desired indicators , the cost is calculated and the payment is done on-line by credit card (Visa or MasterCard).

The access to databases is allowed based on username and password , thus ensuring the possibility of monitoring the access to information both from inside and outside the organisation .
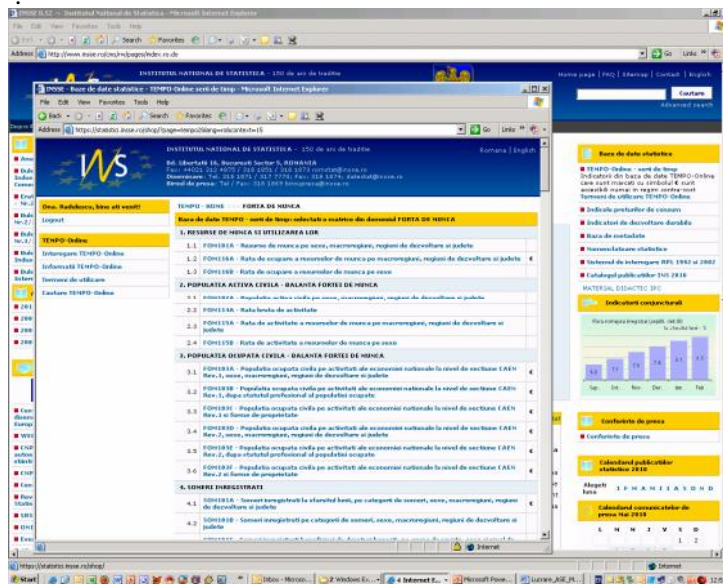
The electronic commerce component could be accessed via "statistic shop"; the logon takes place by introducing the username and the password a priori defined by the user.

All the information on the availability of statistical indicators , the access terms, the use, the payment procedures, the credit card types are clearly described in the informative pages of the website.

The confidentiality, the copyright conditions are protected and assured by national and international legislation in the field of electronic commerce.

Other online facilities are the subscriptions to news (newsletter), the FAQs services, the search in all the website pages, the website map.

Concerns for the future.... GIS on the Internet

The *Geographical Information System* - GIS represents *a work technique* more and more used nowadays, both in the field of theoretical researches and in lots of practical activities . GIS is, in fact, a *system* with several components of *information* type related to *geographical coordinates*. The result of statistical data entries, storage , processing and analysis by geospatial coordinates means, first of all, the visualisation of complex information spatially referenced as against real geographical coordinates and , secondly, the possibility of achieving more complex analyses and correlations , that would be impossible to achieve efficiently with the classic techniques. GIS techniques allow for **combining various types of information** *(figures, images, maps, etc.), by using hardware and software components.*

The Internet development has fundamentally affe cted the architecture of IT applications, entailing substantial changes in sharing and accessing solutions belonging to this category . Taking into account all these considerations , we could ascertain that the access to applications through a simple browser met the necessities of a world characterised, inter alia, by dynamism and speeding up of the economic processes .

The current concerns relate to the development of GIS solutions for the Internet, generically called WebGIS.

The advantages of GIS solutions on the web are the following:
- they have a high potential of sharing geographical information with all the Internet users;
- they provide for a special mobility due to accessing information through a simple Internet browser, without purchasing a GIS software;
- they allow for the development of applications for spatial analyses , mapping, identification of addresses, geo-codification, etc.
- they are able to provide geographical information on mobile video -terminals, starting with laptops and ending with hand-held devices or smart phones;
- they allow for data research, organisation, comparison and correlation ;
- they allow for data presentation within thematic tables, graphs and maps at various administrative levels: regions, counties and communes.

Geographical representation and location are core elements for the information flows within local public administration. In this sense, the largest share of documents circulating within the town halls is intrinsically connected to geographical information .


Here are some specialised software products for maps production, publication and dissemination via internet:

- AutoDesk MapGuide
- ESRI ArcExplorer, MapObjects Internet Map Server

- Etak Map Server
- Intergraph GeoMedia WebMap
- MapInfo ProServer
- GRASSLinks developed by University of California at Berkeley
- ForNet MapServer developed by University of Minnesota

The GIS solutions are applications allowing for producing and representing various information as geographical maps. Generally, the geographical information systems comprise a component meant for maps visualisation, the most recent solutions providing the possibility of publishing them on the Internet, a web browser being used for the visualisation. For the Internet, this kind of solutions requires special tools for creating these maps and a server able to manage maps and to provide online data to the quasi-totality of users.
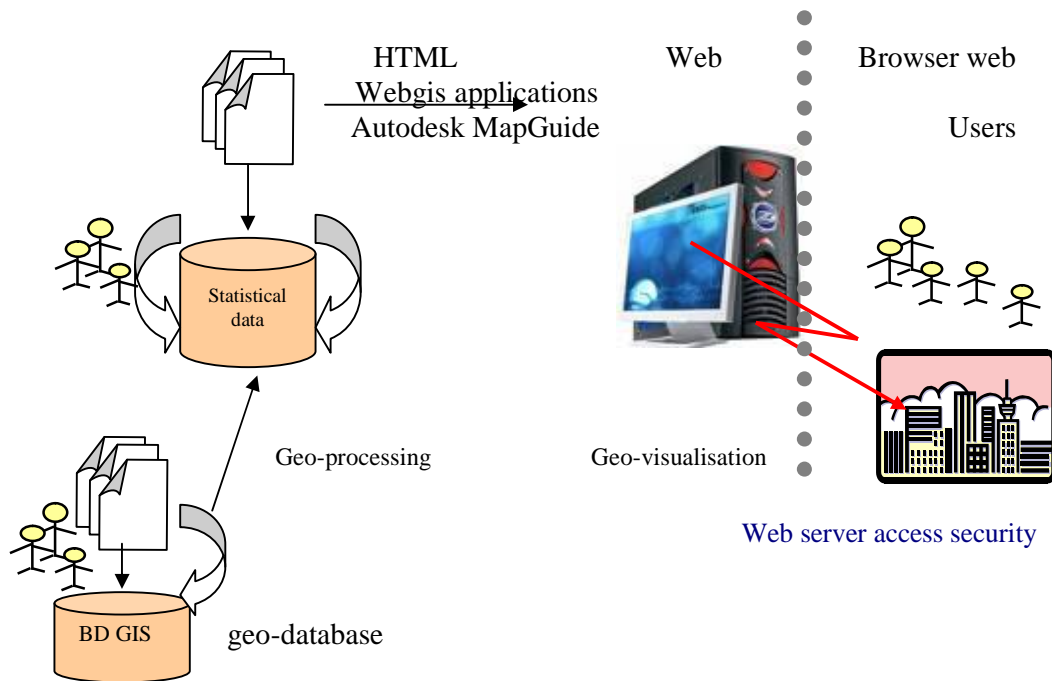
At European level, the European Geo-Portal was developed, representing the focal point for accessing via Internet the collection of spatial data within the European Initiative of Spatial Information Infrastructure (INSPIRE). The purpose of this portal is to create a European infrastructure of spatial information allowing for sharing this type of information between all users.

The Geo-Portal INSPIRE was implemented by ESRI using the development language J2EE, ArcIMS 4.0.1, ArcSDE 8.3, the databases Oracle and ArcGIS Desktop 8.3. The users of this portal include decision makers, managers at local, national and European level, the European organisations and all citizens. The services provided by this geo-portal include the visualisation of information strata, overlapping the information from various sources with the spatial and temporal analysis.
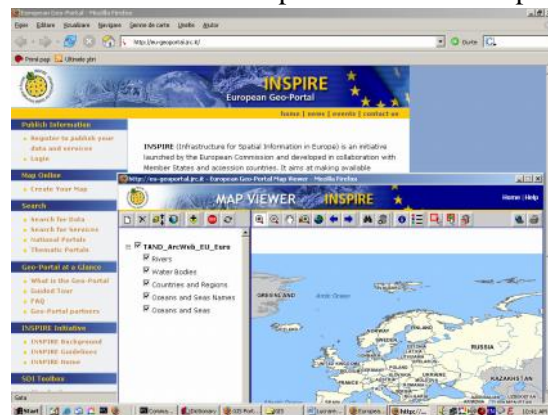
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