eGovernment Economics Project (eGEP)

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Compendium to the Expenditure Study

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Luiss
Management

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1. Expenditure Study Compendium Presentation

The present compendium tries and synthesises all the supporting work carried out from January till November 2005 in the elaboration of eGEP Expenditure Study , in terms of data gathering, literature review, analysis and discussion. It contains all the details that for reason of space are left out in the Expenditure Study final report, but which are cited and referenced in such report.

Section 2 contains all the background work supporting the analysis and proposals regarding eGovernment cost monitoring methodologies presented in the section 2 of the Expenditure Study final report. It includes a comparative overview of existing eGovernment cost monitoring methodologies (2.1), a synthesis of the case studies elaborated (2.2) and a short guide for the application of Activity Based Costing (2.3).

Section 3 presents the full results of the analysis conducted for the assessment of eGovernment financing mechanisms in the form of avcountry profile for each of the 25 member States.

Section 4 reports all the background supporting work the conducted for the assessment of ICT and eGovernment expenditure whose results are presented in the section 4 of the Expenditure Study final report. It includes a full discussion of the challenges eGEP cope with in attempting to quantify ICT and eGovernment expenditure (4.1), an illustration of the estimation methodology used (4.2), the guide paper elaborated to support eGEP questionnaire (4.3), and the questionnaire itself (4.4).

The country specific results of the expenditure assessment are reported in **Section 5** in the form of a country fact sheet for each of the 25 member States.

2. Background work for cost monitoring methodology

2.1. Selective overview of running eGovernment Costs Methodologies

The **_relevant sources_**[1] gathered as part of the state of play activities enabled us to identify a number of running eGovernment cost methodologies, the most noteworthy of which are the following:

1. The new eGovernment measurement methodology launched in March by the French agency ADAE and named MAREVA (Méthode pour l'Analyse et la Remontée de la Valeur - Method of Analysis and Value Enhancement) contains the identification of eGovernment types of cost and their definition in a logical structure[2];

2. The German monitoring tool for the assessment of the implementation of IT projects (WiBe 4.0) has, as one of its building blocks, an ad-hoc developed cost accounting system[3];

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[1] By "relevant sources" we mean studies and/or methodological guides entirely and uniquely addressing the understanding of eGovernment costs. As explained, the body of literature on costs in general and on the cost of IT projects (especially for the private sector) is fairly extensive and provides a general background to this study, but does not address the peculiarities of eGovernment with the necessary details.

[2] French Agency for the Development of Electronic Administration, (ADAE), (2005), _MAREVA methodology guide: Analysis of the value of ADELE projects_, unpublished internal document obtained during eGEP field mission to Paris (May 23-24 2005).

[3] German Federal Ministry of the Interior, IT Department, (2004), _Economic Efficiency Assessment (WiBe) 4.0 - Recommendations on Economic Efficiency Assessments in the German Federal Administration, in_

3. The Italian Ministry for Innovation and Technology, in its notices for financing projects related to the national eGovernment plan, provides a list of cost elements to guide public administration in their elaboration of application for funding[4];

4. The UK Criminal Justice Information Technology (CJIT) has developed a business case methodology comprising the definition of the main cost elements to be considered[5];

5. UK Office of Government Commerce *Measuring the expected benefits of eGovernment,* provides guidelines for the identification of eGovernment costs as a source for business case elaboration;[6]

6. The US Federal Chief Information Office (CIO) *Value Measuring Methodology* provides a Standard Cost Element Structure for eGovernment projects/services[7].

These methodologies for the identification and monitoring of eGovernment costs basically consist in the conceptual organisation of cost elements into a logical structure. Though it is not usually made explicit, from the analysis of these methodologies it can be inferred that the underlying approach is probably a Total Cost of Ownership model adapted to eGovernment. The issue of less tangible costs (reorganisation, training, change management), intended in their broadest sense and not simply measured by proxy indicators[8], is only cursorily touched. Certainly some of these items are listed in the identified cost element structures but little analysis and elaboration on the topic is provided[9].

Having identified some of the major limits of the listed methodologies, we can proceed with a very selective illustration of the two we consider most exhaustive and that are reported in table 1 below. These are the cost element structures proposed by the UK Office of Government Commerce, and the German WiBe 4.0 methodological guide.

Particular with Regard to the Use of Information Technology (http://www.bund.de/nn_211300/EN/BundOnline-2005/Documents/Documents-seite-7-anl,templateId=raw,property=publicationFile.pdf , accessed June 2005).

[4] Italian Ministry for Innovation and Technology (MIT), (2004), *Avviso per la selezione di progetti per lo sviluppo della cittadinanza digitale* available from http://www.innovazione.gov.it/ita/intervento/normativa/allegati/Avviso_eDemocracy.pdf, accessed May 2005); Italian Ministry for Innovation and Technology (MIT), (2004) *Avviso per la selezione di progetti per lo sviluppo dei servizi infrastrutturali locali ed SPC*, available from http://www.innovazione.gov.it/ita/egovernment/entilocali/spc_avviso.shtml , accessed May 2005)

[5] UK Criminal Justice Information Technology,(CJIT), (2005), *CJS IT Benefits Evidence & Revised Forecast Q4 2004/2005*, unpublished internal document obtained during eGEP field mission to London (May 9-10 2005).

[6] UK Cabinet Office eGovernment Unit,(eGU), (2005), *Business Case Model Template*, unpublished internal document obtained during eGEP field mission to London (May 9-10 2005); UK Office for Government Commerce (OGC), (2003), *Measuring the Expected Benefits* of E-Government, OGC, London, (http://www.ogc.gov.uk/sdtoolkit/workbooks/businesscase/HMT%20Guidelines%20Version%201.4.pdf , accessed February 2005).

[7] US Chief Information Office (2002) *Value Measuring Methodology. How to Guide*, CIO, Washington DC, available at http://www.cio.gov/documents/ValueMeasuring_Methodology_HowToGuide_Oct_2002.pdf, accessed February 2005).

[8] For instance a proxy measure of the cost of reorganisation can be represented by the amount spent on management consulting services for reorganisation, a full measure, however would have to include other items (workdays of internal personnel, decrease of productivity, etc) as has been illustrated in para. 3.2.

[9] Some insights into the topic the costs of "organisational readiness" and "users adaptation to the new systems") have been gained, for instance, from a methodology elaborated as early as 1997 by scholars at University of Albany (see Bloniarz, P.A., and, Larsen, K.R., *A Cost/Performance Model for Assessing WWW Service Investments*, Centre for Technology in Government, University at Albany/SUNY, 1997 available from http://www.ctg.albany.edu/publications/guides/costperfmodel/costperfmodel.pdf, accessed May 2005).

Both Cost Elements Structures (henceforth simply CES or CESs) are fairly exhaustive, although it must be stressed that the WiBe 4.0 methodological guide treats and explains the single items considered in greater detail. In general terms, despite some differences in emphasis, the two CESs mostly converge in treating some major blocks of cost items and also in some of the sub-items. Though with a higher degree of precision, they are also quite representative of the other methodologies identified.

Disregarding the different ways in which blocks and elements are organised, the common aspects include the distinction between the set-up phase (blocks 1 through 3 plus sub-element 6.1 in OCG and block 1 in WiBe 4.0) and the operation and maintenance phase (block 4 in OCG and blocks 2 through 5 in WiBe 4.0). Moreover in both CESs we find listed some of the less tangible costs such as Change Management, users training and familiarisation with new system, and reorganisation.

The clearest difference is in the emphasis given to some of the set-up, planning and supporting activities and to the operational costs. The OCG approach is more focused on cost items deriving from activity that is customer-oriented (usability and accessibility studies, marketing and communications, customer inducements) and that is either absent or only marginally considered in the WiBe 4.0.

Indeed, the CES proposed by the OCG represents an important improvement as it goes beyond the identification of costs associated with IT investments, to also consider public sector agency expenditure in other domains, such as:

❑ giving incentives and support to users in system utilisation (training, marketing, access, etc.);

❑ ensuring positive performance, public awareness, advertising, public relations, development and communication plans;

❑ managing the transition from the old to the new service, for example, not immediately abandoning paper forms and/or legacy systems and processing, but maintaining them during the transition.

On the other hand, WiBe provides greater details into the costs of operation and maintenance and also considers the set-up cost of introduction of a new technological platform. In this sense, the OCG CES reflects more the eGovernment external dimension (in the sense of user orientation), whereas WiBe 4.0 follows a more internal perspective. As anticipated, the WiBe 4.0 methodological guide treats and explains the items included into the CES in greater detail and some of the considerations developed are worth reporting. The first important aspect to report is the distinction made in the German guide between the direct and indirect costs of an ICT based project. To set an example, the direct cost of a new ICT project would be the hire of new personnel or a consultancy precisely for the set up and/or operation, this is new cash expenditure in the budget. On the other hand, if already existing and paid personnel is used for the same project, this is an indirect cost that must be attributed to the project. The basic hypothesis of WiBe 4.0 is that ICT direct costs are mostly related to set-up, whereas maintenance and operations require efforts to attribute indirect costs to the ICT project under consideration.

Table 1: Compared eGovernment Cost Element Structures: UK and Germany

UK OCG	German WiBe 4.0

1. Market planning and development
1.1 Business planning and options analysis
1.2. Market Research
1.3. Due Diligence / Plan Audit
	1. Development costs
	1.1 Planning & Development
	   1.1.1 Personnel costs (own personnel)
	   1.1.2 Costs of external advisors

2. System planning & development
2.1 Hardware
2.2 Software license fee
2.3 Development support
  2.3.1 Programme MGMT
  2.3.2 Engineering & Architecture Design
  2.3.3 Change MGMT and Risk Assessment
  2.3.4 Requirements and Data Architecture
  2.3.5 Test and Evaluation
2.4 Design Studies
  2.4.1 Customer Interface / Usability
  2.4.2 Business Process Redesign
  2.4.3 System Security
  2.4.4 User Accessibility
  2.4.5 Data Architecture
  2.4.6 Network Architecture
2.4 Other development costs
  2.4.1 Facilities – offices, office equipment,
  2.4.2 Travel
	1.1.3 Costs of the develop. environment
	   1.1.4 Other costs of auxiliary resources
	   1.1.5 Travel costs (own personnel)
	1.2 System Costs
	  1.2.1 Hardware Costs
	   1.2.1.1 Host/server, network operation
	   1.2.1.2 Workstation computers
	  1.2.2 Software Costs
	   1.2.2.1 Development and/or acquisition
	   1.2.2.2 Changes of softw./interfaces
	   1.2.2.3 Evaluation, certification, quality
	  1.2.3 Installation Costs
	   1.2.3.1 Construction and building costs
	   1.2.3.2 Installation of technical infrastr.
	   1.2.3.4 Office equipment, fixtures, etc
	   1.2.3.5 Personnel costs of installation
	1.3 Cost of system introduction
	  1.3.1 System and integration testing
	  1.3.2 Import of existing data

3. System acquisition & implement.
3.1 Procurement
  3.1.1 Hardware
  3.1.2 Software
  3.1.3 Customized software
3.2 Personnel
  3.2.1 Programme MGMT
  3.2.2 Internal communication
  3.2.3 Process redesign
  3.2.4 System integration
  3.2.5 System Engineering
  3.2.6 Test & Evaluation
   3.2.7 Data cleaning & conversion
3.3 IT training
	1.3.3 Users initial training
	  1.3.4 Users familiarization costs
	  1.3.5 Other costs of adaptation/change

	2. Operating Costs (material) 2.1 (Pro-rata) line/communications costs 2.2 (Pro-rata) host, server, network costs 2.3 (Pro-rata) workstations, computers costs 2.4 (Pro-rata) workstations, computers costs 2.5 (Pro-rata) energy and space costs
	3. Operating Costs (personnel) 3.1 Personnel costs for system use 3.2 Job description change costs 3.3 System management & administration 3.4 Ongoing training

4. System operation & maintenance
4.1 Hardware (maintenance, upgrades, repl.)
4.2 Software (maintenance, upgrades, license)
4.3 Telecoms Network Charges
4.4 Operations and management support
  4.4.1 Programme Management
  4.4.2 Operations
  4.4.3 Security
  4.4.4 IT Help Desk
4.5 Ongoing training
4.6 Other operations and maintenance
	4 Operating Costs (maintenance)
	4.1 Hardware maintenance/ service
	4.2 Software maintenance/ service
	4.3 Replacement / supplementing costs

5. Financing Costs	**5. Other operating costs** 5.1 Data protection/back up costs 5.2 External advisors costs 5.3 Insurance costs 5.4 Other costs

6. Market and Process Implementation
6.1 Operations and management support
  6.1.1 Internal communications
  6.1.2 Training
  6.1.3 Redeployment
  6.1.4 Customer Help Desk
  6.1.5 Call Centres
6.2 Marketing and Communication
6.3 Customer Inducements / Rebates	

Finally from WiBe 4.0 the recommendations concerning the assessment of internal personnel costs are worth reporting. WiBe 4.0 states very clearly that the costs of the agency's own personnel (the working time of those involved in the ICT project) must be quantified using

records on the "man-days" planned for and actually used and multiplying them by the corresponding personnel rates (published by the Federal Ministry of Finance)[10] and concludes that *"...neglecting the internal ("imputed") personnel costs would distort the economic efficiency assessment. Consideration of these costs is mandatory"*[11]. This statement shows awareness of the importance of less tangible costs, but it is not complemented by a more in-depth analysis of the methodology to be used to actually identify, assess and calculate these sort of costs.

2.2. Case Studies Overview

In this paragraph we briefly present some data and information relevant for the identification of eGovernment costs that emerged from the four previously mentioned case studies. Of these case studies, three are based on ex ante business case-sensitive and confidential data that was provided to eGEP on the explicit agreement that the exact figure would not be used (these are the three cases illustrated in A.2.2, A.2.3 and A.2.4). Therefore, below, we limit the presentation to the breakdown of costs in percentages.

The Italian Tax Agency case study is the only one based on an ex post evaluation of the costs incurred to set up the system. In this case, given the fact that the Italian Tax Agency participated to our bid with a show of interest, we were able to conduct repeated interviews and to gather a fairly substantive amount of data, and we obtained authorisation for using the data with no restriction.

2.2.1. *Italian Tax Agency: II Fisco Telematico (Tax Online)12*

The Fisco Telematico Project must be understood in the context of the Italian Tax System Reform that took place between 1997 – 2001. The tax system situation before the reform can be illustrated as follows:

- ❑ huge number of Taxpayers,
- ❑ 1700 offices dealing with registration tax, value added tax, income tax,
- ❑ twelve tax-return handling Centres snowed under with a backlog of 20,000,000 cases to deal with,
- ❑ 44,323,395 paper forms to be managed,
- ❑ 3,200,000 tax litigation pending cases .

The complexity and overlapping of tax legislation and rules led to dissatisfaction amongst taxpayers because the Tax Administration often took up to five years to check tax returns (onus on taxpayers to keep heaps of documents) and difficulties for the Tax Administration related to the recovery of outstanding taxes and lack of time to carry out tax audits. The reform of the Italian Tax System introduced major changes that covered three different perspectives:

- ❑ Legal perspective
  - ✓ introduction of one single tax return form (Modello Unico) including the taxpayer's tax and social security situation by integrating it with data held with other organisations; thanks to this unification the number of declarations halved from 44 to 22 million (Social Security, Work insurance, Regions, Treasury);

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[10] WiBe 4.0, *op. cit.*, p. 31.

[11] WiBe 4.0, *op. cit.*, p. 32.

[12] The source of all tables and exhibits are internal documents obtained from the Italian Tax Agency complemented by in-depth interviews (three sessions) with the Agency Director General of Information Systems and Organisation, Alberto Fenu.

- ✓ One single payment for all tax and social security contributions. In this way the number of annual deadlines was reduced from 48 to 45 and the payments from 82 to 40 million;
- ✓ Fiscal federalism by introducing regional taxes;
- ✓ Sharp reduction in the number of taxes;
- ❑ Organisational perspective
  - ✓ unification of the three main tax offices under the same roof (Unified Tax Office)
  - ✓ reorganisation of the Ministry of Finance and creation of Tax Agencies. The Ministry of Finance reorganisation aimed at converting a bureaucratic system into a modern service agency by giving wide autonomy of decision making and human resource management power to management. The reform implied a clear separation between policy making and control power given to the Ministry (now Department for Fiscal Policy integrated in the Ministry of Economy and Finance) and management power given to the Tax Agencies (Revenue, Customs, Territory, State Property). The Agencies have got wide organisational, financial, and management autonomy.
- ❑ Technological perspective
  - ✓ launch of Fisco Telematico project aimed at eliminating the paper management of taxes and social security returns, allowing taxpayers to double check soon after the transmission. Electronic Filing System involves taxpayers and taxation bodies (Treasury, Regions, Social Security) as well as tax advisors (professionals, tax assistance centres, professional associations) and intermediaries involved in tax collection (banks, post offices and other authorized intermediaries).

The electronic transmission of tax returns and tax payments (introduced by Law 241/97) through the Fisco Telematico is the milestone of the Italian Tax System reform. The project start up activities were carried out in the first six months of 1998 while the service was gradually introduced starting with the end of 1998.

The success of the project also hinged on the setting up of the Tax Agency in 2001. The Tax Agency mission is to achieve the maximum level of tax compliance both by providing assistance to taxpayers and by carrying out tax checks focused on combating tax avoidance and evasion. It pursues the mission by simplifying relations with taxpayers, assuring taxpayers access to assistance and information, boosting action against tax evasion, improving administrative performance through innovative organisational models. In 2001 the Agency provided services to nearly 44 million taxpayers: 37.2 million individuals, 1.5 million companies, 5.2 million VAT Payers with 40,000 employees. Today the revenue Agency manages a higher number of taxpayers (about 47 million) with less employees (34,000).

The agency provides on-line services to two categories of users:

- ❑ For citizens and SME through the Fisconline Internet based system;
- ❑ For larger businesses and intermediaries through the Entratel channel (VPN).

The following table summarises the main electronic services provided by the Agency:

Table 2: Overview of Italian Tax Agency Online Services Provision

Integrated eServices for individuals (G2C) Fisconline	Integrated e-services for business (G2B) Entratel
Authorisation to on-line services (PIN)	Authorisation to on-line services (digital signature)
Pre-filed tax return forms	e-filing of tax returns and payment
E-filing of income tax return – Payment and refunds	Registration, deregistration and change of position of a VAT subject
Notification of assessment and receipts	Access to tax litigations databank
Access to data - taxpayers can check their tax position	Information and control on taxpayer's data
Updated Information (rules, regulations, forms)	Registration of rent contracts
e-filing of documents and deeds	Sector studies

The Fisco on-line model involves various organisations which work in a network formula. A "Database of the Economy" collects and reallocates data among the various actors: it has a high informative value available for every public sector organisation (see Exhibit below).

Exhibit 1: Tax online Model
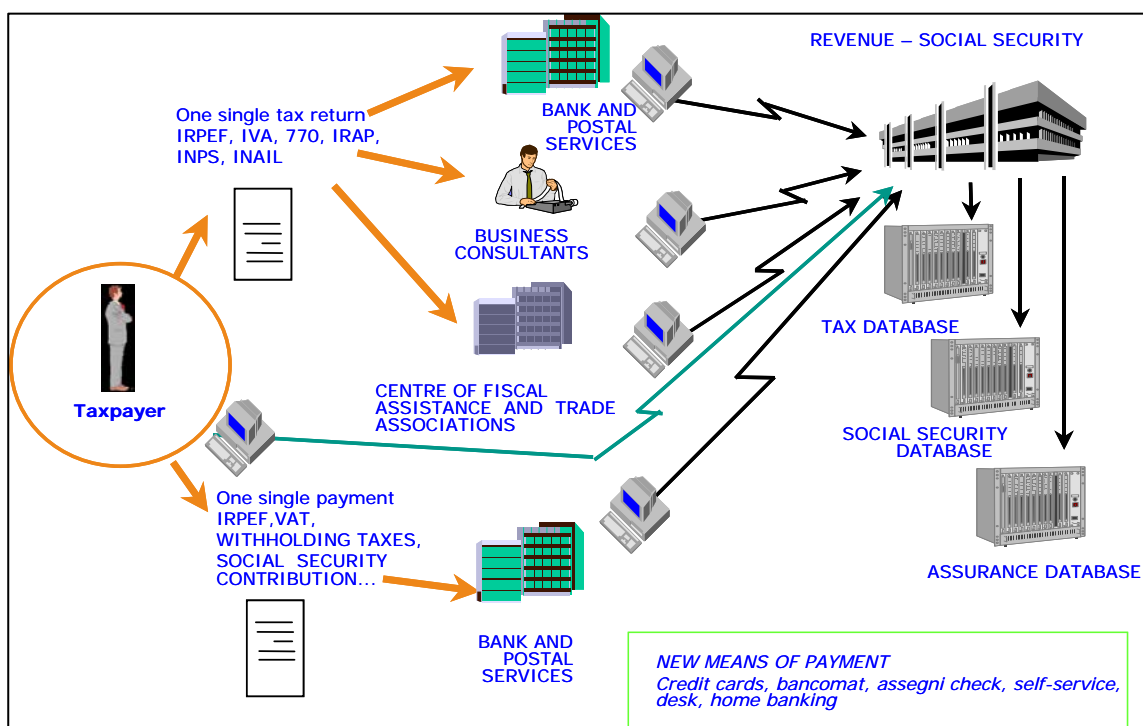
Fisco telematico cost structure

The following pages will illustrate an ex post analysis of cost element structures. Data was provided by Mr. Alberto Fenu, Tax Agency General Director for IT and Organisation. As Mr Fenu declared, the Tax Agency handles, annually, Euro 300 billion of total revenue and spends Euro 2,750 million in total administration and management costs. The total amount of changeover initiative for the Fisco Telematico Project was Euro 100 million, and the total cost of

transformation was absorbed in the operational costs of the Agency without any extra costs for taxpayers.

In particular the exhibit below shows the high level cost structure of Fisco Telematico:

Exhibit 2: Tax Online Costs structure
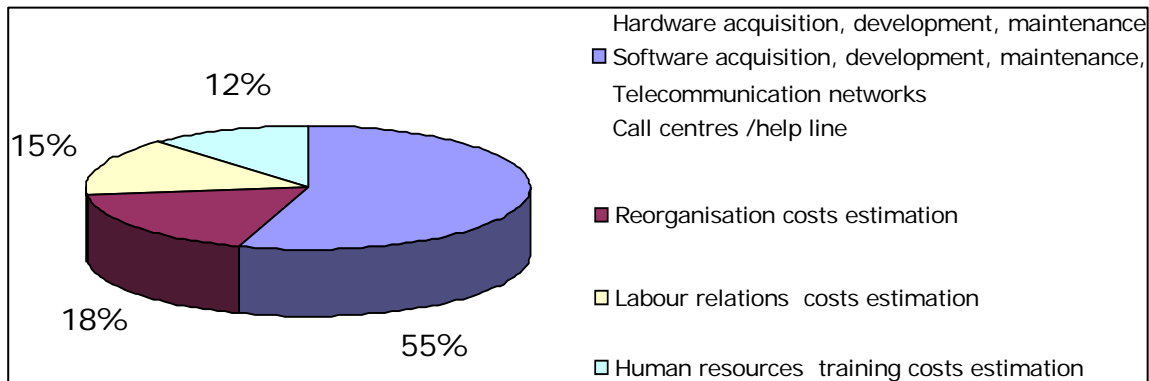
The cost structure clearly shows that the Fisco Telematico System was a project based mostly on technology (55% of the total amount) but it was implemented in a multidisciplinary way with costs springing from:

- process reorganisation,
- labour relations,
- industrial relations,
- professional training and retraining,

In particular: **technology costs** can be broken down as follows: Hardware acquisition, development, maintenance and Software acquisition, development, maintenance (€29,000,000); Telecommunications (€20,000,000); Call centre/ Help line (€2,500,000).

Exhibit 3 below indicates the percentage of each type of costs:

Exhibit 3: Tax Online Technological costs
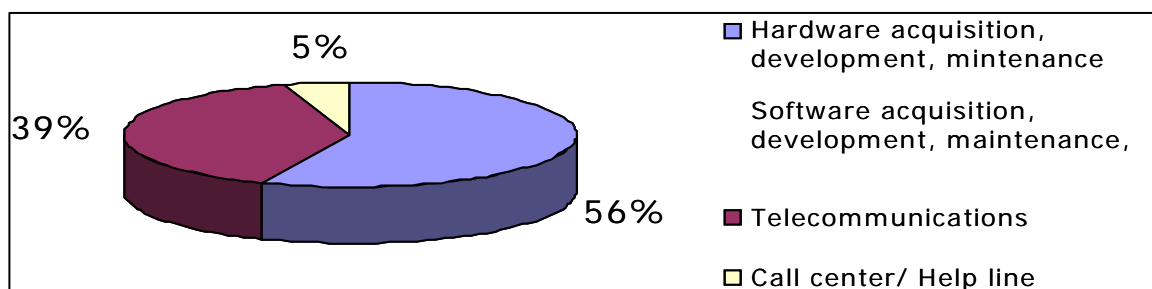
Source: Consortium elaboration on data provided by Mr Alberto Fenu, Agenzia delle Entrate

The main part of technology costs is naturally allocated to hardware and Software acquisition, development, and maintenance. Telecommunications costs, though, are quite high in percentage terms (39%) and this is due to the implementation of eServices for businesses through the Entratel channel which is a VPN based system.

Reorganisation cost estimates (€17,000,000) represent 18% of the total amount and were mainly due to 1 month remuneration of 8 staff personnel from senior and middle management levels FTE who received pay awards for their contribution in driving forward the reorganisation, and consulting services delivered by external companies that supported the Tax Administration in defining the new organisation model. Remuneration costs for staff and middle management were paltry in comparison with the consulting services.

Paper backlog elimination was an essential prerequisite in implementing the Fisco telematico project.

As outlined above, in 1997, when the project started, taxpayers received comments on their tax returns, on average, 5 years later, while twelve years occurred for their tax return. Centres were snowed under with a backlog of 20,000,000 cases to deal with.

The implementation of Fisco telematico Project implied:

- two-year pay incentives for staff involved in paper backlog elimination,

- incentives for staff transfers from tax return handling Centres, which were responsible for paper tax form returns checking, to other offices. In fact ten Centres have been closed and two reconverted since 2001.

These two facts caused high labour relation costs.

As Exhibit 4 below highlights, **labour relation costs** estimates (€14,000,000) can be broken down as follows: pay incentives for staff involved in paper backlog elimination activities from 1999 to November 2000 68% (€9,500,000) and compensation for staff who transferred to other offices because of the closure of tax return handling centres 32% (€4,500,000).

Exhibit 4: Labour relation costs estimates
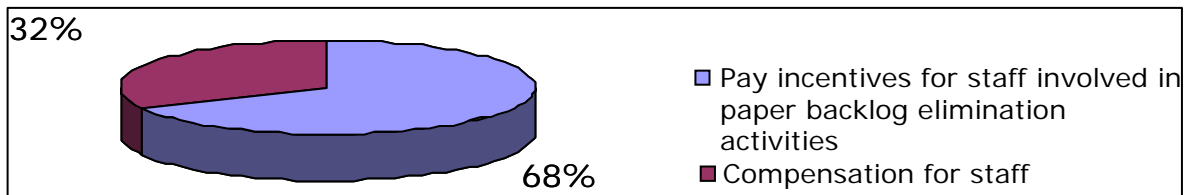
Due to the elimination of paperwork and staff transfer to other offices and to higher levels and more motivating activities, new requirements and functions for personnel were needed. Moreover, electronic services have made it more necessary to invest in ICT-skills. In 2001 a personnel retraining plan, including mentoring activities, was carried out by involving both staff and management.

As Exhibit 5 below highlights, human resource training costs estimates (€11,000,000) can be broken down as follows: 45% (€5,000,000) for training employees and 55%(€6,000,000) for staff mentoring

Exhibit 5: Human resource training
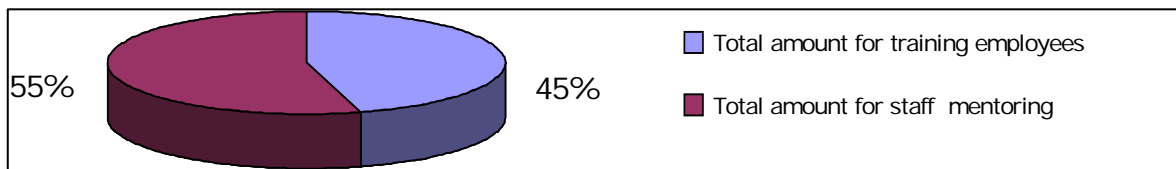
Customer education campaign costs were paltry and have been not considered in the costs structure.

The table below synthesizes the Fisco telematico cost element structure and the ex post costs estimates.

Table 3: Tax Online Cost Structure

Type of costs	Total amount in Euro
Technology	**51,500,000**
Hardware acquisition, development, maintenance Software acquisition, development, maintenance	29,000,000
Telecommunications	20,000,000
Call center/ Help line	2,500,000
Reorganisation costs estimates (including Staff remuneration & Consulting services)	**17,000,000**
Labour relation costs estimates	14,000,000
Pay incentives for staff involved in paper backlog elimination activities	9,500,000
Compensation for staff	4,500,000
Human resources training costs estimates	11,000,000
Total amount for training employees	5,000,000
Total amount for staff mentoring	6,000,000

Cost savings have been gradually achieved through:

❑ the closure and disposal of ten tax return handling Centres since 2001 (400,000 m^2 of accommodation space savings),

❑ the elimination of data acquisition costs since 2000,

❑ the on-going reduction of 6000 human resources.

The table below synthesizes the cost savings total amount estimate.

Table 4: Overview of Italian Tax Agency Cost Savings

Type of Cost Savings	Total amount in Euro
Closure and disposal of ten tax return handling Centres	**20,000,000**
Elimination of data acquisition costs	**30,000,000**
On-going reduction of 6000 human resources	**40,000,000**

The different benefits were achieved respectively for the Tax Administration (i.e. immediate availability of tax return data for tax analysis and tax policy, total elimination of paper related to tax returns, reduction of formal control activities, immediate availability of tax revenue data and immediate allocation of amounts due to the various tax-levying bodies etc.) and for the taxpayers (i.e. less time required to carry out tax obligations, reduction of tax litigation cases, strong incentive to take up Internet services).

Performances are measured each year through customer satisfaction surveys and activities to verify the correspondence between the results achieved and the goals set out in the contract. In particular customer feedback data was measured in 2004 both for Fisconline through Top of the web 2004 survey data and for the Entratel through an Agenzia delle Entrate customer satisfaction survey in 2004.

2.2.2. UK Criminal Justice Information Technology: Secure e-mail

The case study constructed through interviews and documents gathered in the course of the UK field mission is one of the several ICT projects introduced by the UK Criminal Justice Information Technology (CJIT), namely the *Secure eMail System* (SeMS)[13].

SeMS is a project launched to improve the performance of the Criminal Court System by joining most of the internal and external stakeholders of the Criminal Justice System (CJS) in England and Wales to a system for the secure and certified exchange of trial sensitive data documents via e-mail.

The interaction system, defined in an extended form, includes the Police, the Crown Prosecution Service, Magistrates' courts, Crown Courts, the National Offender Management Service and Criminal Justice Practitioners (CJPs). The CJPs group consists of players who are not connected to a Government secure network system but who are anyway involved in the criminal justice process as receivers and transmitters of relevant amounts of sensitive data. They are defence solicitors, Youth Offending Teams, barristers, victims and witness groups.

When thinking about how the various components of the criminal justice system (CJS) works together, it is important to consider that 65 per cent of data flowing across the criminal justice process is initiated by the police. This huge volume of case file information used in the case management process must be passed on from the police to organisations such as the Crown Prosecution Service (CPS), the Courts, the Prison Service, the Probation Service, victims and witness agencies, and independent criminal practitioners, including barristers. Until recently most of this information flow had been manually processed. This was due especially to the fact that CJPs, when receiving and transmitting sensitive data, were outside the secure electronic data exchange system used within the Criminal Justice Organisation. In this sense the goal of SeMS is to also include external stakeholders into the secure exchange network thus improving the performance of information flows across the whole system.

Some of the identified priorities of Secure eMail projects are narrowing the justice gap, providing more care for victims and witnesses, joining up working practices in order to meet the targets, improving the quality of communication through access, provision and receipt of relevant information in a timely way, speeding up processes through the use of new technologies, combating geographical differences within teams and remote sites, and calculating the benefit of intervention outside the traditional Criminal Justice process. Secure eMail has given an important contribution through the achievement of the first target set in the White Paper "Justice for All"[14], which is as follows:

- ❑ by the end of 2005 all CJPs will have the capability to secure email;
- ❑ by the end of 2003 police, CPS, magistrates' courts, probation and prisons and selected YOTs will have had that capability;
- ❑ by the end of 2003 CJPs not connected via government secure networks will be able to email their counterparts securely.

In order to measure its benefits, the Secure eMail programme has used a balance scorecard approach and ended up identifying three different categories: *Performance benefits*, *People benefits*, and *Financial benefits*. Performance benefits refer to the impact of addressing the root causes of major problems in the Criminal Justice System, contributing in this way to the delivery of government priorities. With regard to Performance benefits, Secure eMail has improved the effectiveness of the CJS through a faster delivery of documents between the organisations working within it. Some of these benefits consist in reduced crime and reduced fear of crime (thanks to a faster and more accurate transmission of sensitive information), improved delivery of justice (more effective work between all the organisations involved has

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[13] See http://www.cjit.gov.uk/PDFs/SeM_FAQs.doc

[14] CJS, *Justice for All*, http://www.cjsonline.org.uk/library/pdf/CJS_whitepaper.pdf

direct impact on narrowing the justice gap), improved level of confidence in the criminal justice system, more protection for the public and a reduced re-offending, increased value for money, having Secure eMail saved people a lot of work days. People benefits refer to the advantage staff get in terms of an improved working environment and they have been measured through a questionnaire that was filled in before and 10 days after the project's implementation. The final result was that Secure eMail had definitely made a positive difference to the working lives of its users. It had reduced duplication of work and also reduced employees stress level at work; it helped administer processes better and manage them in a more efficient way. It also enabled people to communicate more effectively. The questionnaire shows that 35% of people felt that SeMS had improved the quality of their work; 21% felt that it had made a positive difference in meeting work objectives; 55% that it had saved time, and 47% felt that it reduced un-necessary bureaucracy[15]. Talking about financial benefits, these can be divided into *Efficiency benefits* and *Effectiveness benefits*. The first are savings in staff time, equipment costs, and all the other savings arising from IT-enabled business change. Efficiency benefits have been obtained by simplifying the processes for making requests, transferring information, raising queries and distributing documents (especially when recipients are more than one) among CJOs and between CJOs and CJPs. In this sense we can talk about benefits as reduced staff time spent printing, photocopying and transmitting documents (via fax, mail, courier), which leads to reducing staff administration costs; and we can also talk about reduced printing, photocopying and transmission (fax, postage, courier) costs.

The SeMS business case includes a detailed quantitative analysis of both benefits and costs, and below, we will focus our attention only on the cost side of the information obtained. Exhibit 6 below reports the first year costs concerning the project set-up phase, broken down into three main categories:

❑ The internal cost of implementation;

❑ The cost deriving from a long term service contract with an external end-to-end supplier;

❑ The cost of running and centrally managing the system.

The peculiarity of this cost structure size depends on the fact the CJIT is an information technology department that has faced internally most of the cost of implementation. As we can see, in the first year the set-up costs of implementation were 62.7% of the total amount, while running and management costs were 27.6%, and due to the specificities of the contract the initial cost of the external supplier amounted only to 9.6% of the total. In this respect it is worth underlining that given the confidential nature of this contract we were not able to gain a more detailed understanding of the cost driver for the services bought from the external supplier. Moreover, since this supplier is a typical end-to-end company providing a number of services ranging from telecommunications to strictly technological system integration services and consulting services, it is not possible to say exactly how much of the services covered the less tangible aspect of costs such as reorganisation and change management. We can reasonably estimate that, since the external supplier costs amount to only 9.6% in the set-up year and then from the third year (when the system is expected to be fully operational) they go up to 95% (see Exhibit 6 below), the 9.6% of the first year is probably related to requirements definition and business process re-design, whereas in subsequent years the supplier cost is for the ICT side of operation and maintenance.

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[15] CJIT, *Secure eMail Full Business Case Update for Gateway 5*, Office for Criminal Reform, 29 April 2005, p. UK Criminal Justice Information Technology,(CJIT), (2005), unpublished internal document obtained during eGEP field mission to London (May 9-10 2005).

Exhibit 6: UK CJIT Secure e-Mail Set-up Cost (Year 1- SeMS became available at national level in September 2003)
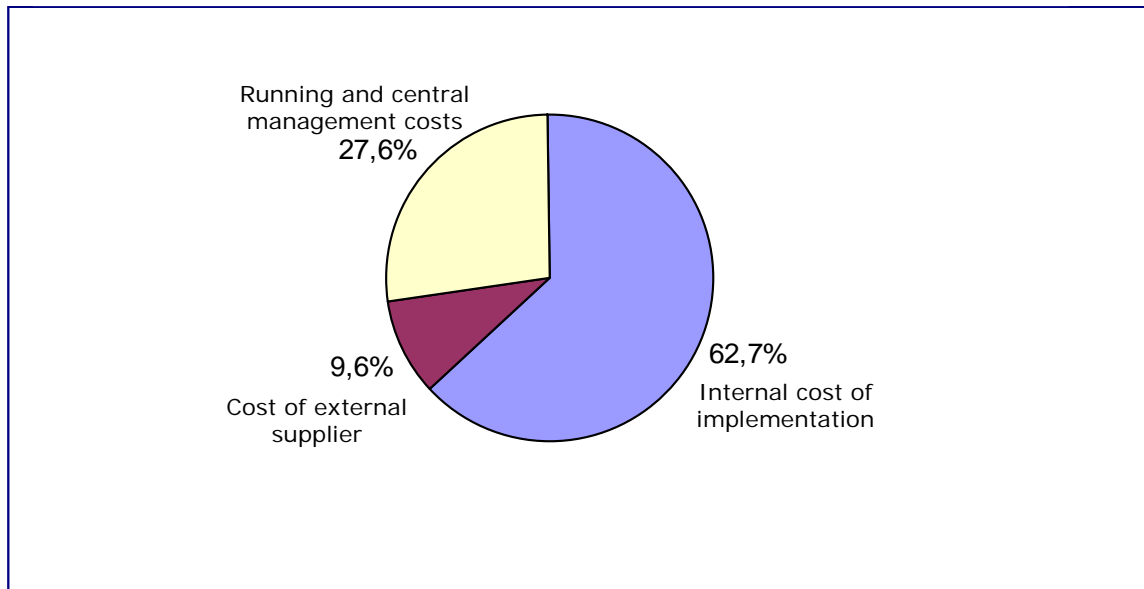
Source: UK CJIT unpublished confidential internal document obtained during eGEP field mission to London (May 9-10 2005)

It is worth reporting also that within the aggregate internal cost of implementation category the following items have been included:

- ❑ Implementation *strictu sensu*;
- ❑ Analysis;
- ❑ Build & configuration;
- ❑ Test;
- ❑ Deployment;
- ❑ Travel & subsistence
- ❑ Printing;
- ❑ Reproduction & design.

Since the documentation gained on SeMS is not only an ex ante business case but includes also an ongoing analysis of project development, it is interesting to illustrate a very relevant change that was included in the analysis of costs as the project unfolded. Indeed for the second year the budget had to be substantially increased in order to fund activities defined by CJIT as operational that were not included in the initial cost calculation and that became necessary as the project unfolded. Interestingly enough these were activities required to expand the overall service usage.

The additional internal costs (amounting to several million EURO) were necessary in order to spread the awareness about the service among the CJS, and to encourage the transition from a traditional information flow exchange to the new one. These activities included, among others, service enhancement and support to system exploitation. Certainly SeMS is a peculiar sort of extranet eGovernment application trying to join together a very extended network of practitioners in a field where resistance to the technology is high. Some professionals, such as lawyers, in fact are still very much used to exchanging documents in paper format. Therefore the amount of effort and resources devoted to raise awareness, overcome resistance and spread usage cannot be taken as representative of an average eGovernment service.

Nonetheless this experience provides an important lesson on the potential costs deriving from very important activities needed to stimulate take up.

Table 5 below shows the running cost profile for SeMS over a 10-year period. Note that for the year 2004/05, service provider costs and running and central management costs are converged into the operational activity entry.

Table 5: UK CJIT Secure e-Mail 10-Year Running Cost Profile

Cost (£k)	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11	2011/ 12	2012/ 13
Implementation activity	62.7%	-	-	-	-	-	-	-	-	-
Operational activity	-	100%	-	-	-	-	-	-	-	-
External Supplier	9.6%	-	95.0%	94.6%	94.6%	94.6%	94.6%	94.6%	94.6%	94.6%
Running and central management cost	27.6%	-	5.0%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: UK CJIT unpublished confidential internal document obtained during eGEP field mission to London (May 9-10 2005)

In order to draw a more in-depth picture and to reach firmer conclusions, we would obviously need more details on the identification and calculation of the various costs than those that we were actually able to gather (the limited amount of information is related also to the sensitivity and confidentiality of the data) . On the other hand, the case study provides some basic facts. First, in the set up phase the implementation costs are overwhelmingly the most relevant item. Second, once the system is up and running, the more ICT side of operations and maintenance almost entirely absorbs the total costs, whereas more organisational running costs appear to be marginal. This last consideration is, however, probably highly dependent on the type of service. SeMS is, in a sense, an infrastructural G2G service (where G2G is here intended in an extended sense, since the system aims at being used also by stakeholders that are formally external to the Criminal Justice Organisation) that, once up and running, requires less organisational effort than other eGovernment applications.

2.2.3. ADELE Projects: Public e-Procurement

The project, aiming at the modernisation and dematerialisation of public procurement procedures, is a part of the French national eGovernment and Information Society Strategy, as well as a part of the overall effort to modernise the national public procurement system. The responsibility for the development of public e-Procurement is shared between two government bodies:

❑ The Ministry of Economy, Finance, and Industry, which is responsible for public procurement policy and for the legal aspects. Within the Ministry, a Mission for the Digital Economy (Mission pour l'Economie Numérique) has been created to play a concerting role between public and private sector players. This group contributes towards inter-ministerial initiatives to adapt the legal framework to the specificities of

the digital economy, and prepares the French position in multilateral negotiations and at the EU level[16].

❑ The Agency for the Development of Electronic Administration (ADAE), which is responsible for technical solutions, whose development, however, has to be coordinated between the Agency and the involved Ministries.

This service responds to the legal requirement of the Public Procurement Act[17], modified in 2001 and 2004, in which article 56 establishes the obligation, for public organisations, to accept the electronic documentation sent by private enterprises. This initiative has, so far, had its visible result in the creation of the Marches-publics.gouv.fr website, which is designed to hold all the callings for competition of public institutions, with the exception of those from the Ministry of Defence, which has its own separate solution.

Among the main objectives of the project, there is the electronic publication of all tenders by 2010. Other goals are the reengineering of public procurement process, and training in order to improve the buyer function, as well as the introduction of e-tendering.

To reach such goals, financial resources have been allocated according to the project's time frame, which consists of two phases:

❑ 2004-2005: project management, accompaniment measures, designing and realisation of the public e-procurement platform, for which Euro 2 million has approximately been allocated.

❑ 2005-2008: progressive release of the second version of the service, implementation of the new procedures.

The data commented here has been obtained on a strictly confidential basis from the ex ante business case excel files developed as a result of the application of the new MAREVA measuring methodology. This methodology is designed to be carried out in different moments of a project's life cycle: beforehand, in order to contribute to the decision-making process about launching a project, during the project implementation, to monitor the development of the service, as well as to decide on eventual corrective actions, afterwards, in order to contribute to the experience on eGovernment projects. The case study presented here is based only on the data put together for the first stage of the process, and thus the data on costs mostly covers the set-up and deployment phases of the projects (from 2004 until 2007). Moreover, from the data analysis we can conclude that the benefits expected from public e-procurement along the five dimensions already illustrated in the Measurement Framework Interim Report (profitability, internalities, externalities, necessity and risks) are treated in much greater detail than the costs necessary for the realisation of the project. Yet some insight can be gained from such an assessment of costs on which we focus below.

MAREVA cost analysis rests, in general, on the basic distinction between ***direct*** and ***indirect*** costs. The direct costs are those strictly determined by the development of the project and directly identifiable in terms of financial disbursements and include the costs for the development of the platform, those for the acquisition of hardware and software, for the realisation of the website, as well as project management (AMOA, Assistance à la Maîtrise d'Ouvrage) and support (accompaniment).

Indirect costs are essentially represented by personnel costs, that are quantified according to the different categories of public officers involved in the project development, and to their different remunerations. Such values are represented by the FTE (full-time equivalent: the

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[16] More information is available at the Ministry website, respectively at the addresses http://www.minefi.gouv.fr/minefi/index.htm, accessed September 2005, and http://www.men.minefi.gouv.fr/, accessed September 2005

[17] Code des Marchés Publics, law number 2004-15 of January, the 7th, 2004, available (in French) at http://marchespublics.iledefrance.fr/jahia/webdav/site/marches/shared/Textes%20officiels/code_des_ MP/CodeMarchesPublics2004.pdf, accessed June 2005

monetisation of the time public employees involved effectively spend on the project; that is, the personnel costs attributable to the project). These indirect costs have been valorised by multiplying expected FTE involvement from the ADAE project group and from the participating ministries by the respective rates (see table A.6 below).

Table 6: Adele e-Procurement FTE Estimation

	2004	2005	2006	2007
ADAE Project Group	1	2,5	3	3
Involved Ministries	5	7	7	7
Total FTE for valorisation	**6**	**9.5**	**10**	**10**

Source: ADAE unpublished confidential internal document obtained during eGEP field mission to Paris (May 23-24 2005).

The overall breakdown of costs for the various categories for the period 2004-2004 is illustrated in table 7 below

Table 7: Adele e-Procurement Costs break-down

	2004	2005	2006	2007
AMOA	-	15.5%	16.4%	22.0%
Development	-	38.0%	27.4%	32.9%
Accompaniment	-	-	27.4%	22.0%
Marchés-Public.gouv.fr	48.0%	10.7%	-	-
Service Acquisition	-	25.9%	20.5%	16.5%
Total direct cost (sum above)	48.0%	90.2%	91.7%	93.3%
Total Indirect cost (valorisation of FTE)	52.0%	9.8%	8.3%	6.7%
Total	**100%**	**100%**	**100%**	**100%**

Source: ADAE unpublished confidential internal document obtained during eGEP field mission to Paris (May 23-24 2005).

Although also in this case more detailed information than was possible to gather would be needed, some considerations can yet be drawn.

First, it is evident from table 7 that, for the cost of setting up and deploying the public e-Procurement services, the estimate foresees a much larger share for direct costs than for indirect costs measured as a valorisation of the time used by public employees. Second, if we manipulate the different elements of costs, it emerges that the strictly technological costs (development and service acquisition) amount, for instance in 2007, to 47.4% of the total, while those broadly defined as more related to the organisational dimension (project management, accompaniment, and the indirect personnel costs) to 52.6%. This therefore seems a fairly balanced assessment of costs that leaves some space to the less tangible elements. Naturally the caveat is that we are talking about an ex ante estimation and, on the basis of the information gathered, it is not clear how the actual costs will be monitored and recorded.

2.2.4. Spanish Conecta Projects: Change of Address

The "Change of address" is one of the 20 common public services agreed by the European Member States within the benchmarking eEurope Framework. It is defined as the administrative proceeding allowing citizens who want to change address to transmit the announcement of moving and the new address data to the public administration. In Spain, change of address notification is an administrative proceeding handled by individual government bodies and local authorities. The "Servicio telematico de comunicacion de domicilio" is a cross departmental project included in the National eGovernment Plan Conecta and will allow citizens to notify the address change to any public administration body in Spain. Different administrations are involved in this project: Ministry of Public Administration, Oficina del Catastro, Tesoreria de la Seguridad Social, la Agencia Tributaria, la Direccion General de Tràfico and large municipalities (Barcelona, Madrid). At the moment the project is in the pilot stage and in future, when it is fully operational, any municipality (ayuntamientos), on demand, will be included in the project.

The project aims in enabling citizens to notify simultaneously, through a unique Internet access point data, the new address to the various competent public administrations. The electronic notification brings about:

❑ an automatic change of the register's administrative units having the territorial competence and

❑ an automatic start up of the renewal proceedings of personal documents (driving licence, health service card and so on).

The new address communication service will also be extended to private companies usually involved when a citizen changes address (for example postal services, water distribution, utilities, and so on).

The objectives of **Servicio telematico de comunicacion de domicilio** project are:

❑ **Security guaranteed** (Administrations involved in the project have to implement instruments pledging the trust, integrity, and the impossibility to refuse the transactions delivered);

❑ **Use of standards** The Servicio telematico de comunicacion de domicilio uses the following communication standard:

   ✓ XML (Extended Markup Language) format to interchange information between administrations.

   ✓ Secure channel: the protocol SSL (Secure Socket Layer) v.3 is the standard mechanism for secure connectivity used by electronic certification system

❑ **Reuse of existing applications** This procedure concerns the following aspects: There has to be reuse in the following aspects: legal issues, agreements among parties to enhance collaboration in the interchange of information, technological specifications.

❑ **Simplicity for final user** Usability and easiness has to be guaranteed for final users (citizens or private companies)

❑ **Integration with already existing Communication Systems** The change of address system has to be directly integrated with existing public and private sector organizations

Exhibit 7 Spanish Change of address Model
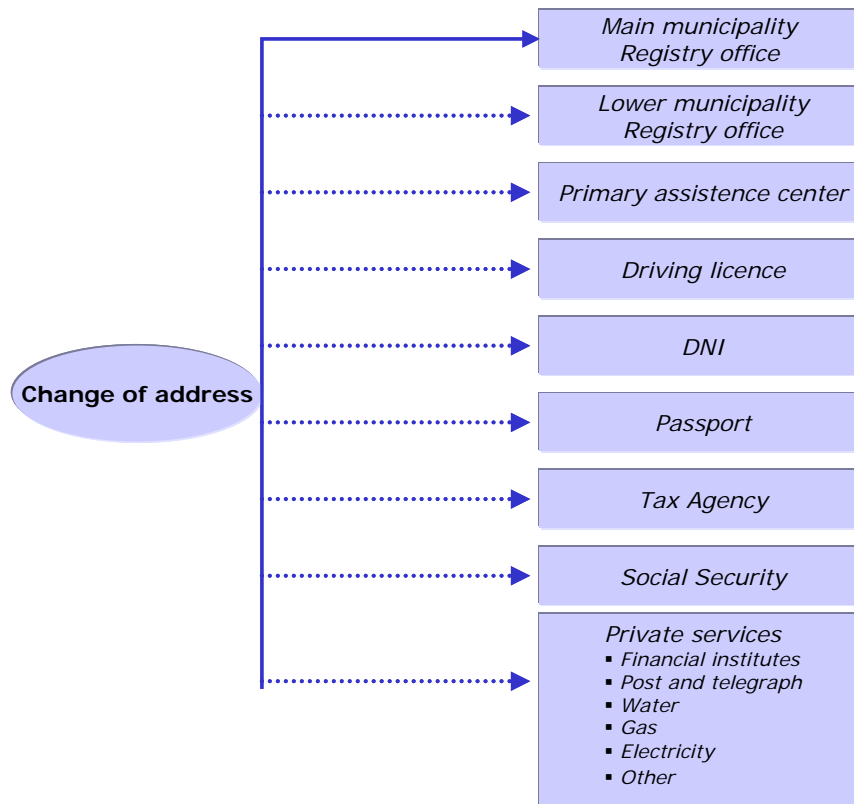
Source: eGEP elaboration on unpublished confidential internal document obtained during eGEP field mission to Madrid (May 17-18 2005)

The service is delivered through the "Portal del Ciudadano" (www.administracion.es) and the Portal de la Administraciò Oberta de Catalunya (www.cat365.net). Citizens can access the change address system after obtaining a permit and then they can enter the details of the new address. Apart from access, portal www.cat365.net will transmit the certificate of enrolment to local administrations and the central administration (in order to transmit the communication to the relative organisations).

In implementing the **Servicio telematico de comunicacion de domicilio** project, a **feasibility study** and an **ex ante business case** were developed. Below we report the cost structure derived from the business case. As can be seen in table 8, the breakdown of costs remains at a high level of aggregation: set up costs, run costs, call centre costs.

Table 8: Spanish Change of Address Project Cost structure

Type of costs	2004	2005	2006	2007	2008
Set up costs	60.2%	39.7%	80.9%	22.4%	-
Operating costs	11.4%	6.2%	1.1%	3.6%	4.5%
Call centre costs	28.4%	54.0%	18.0%	74.0%	95.5%
Total	100%	100%	100%	100%	100%

Source: eGEP elaboration on unpublished confidential internal document obtained during eGEP field mission to Madrid (May 17-18 2005)

The most striking element of the above breakdown of costs is the high proportion absorbed by the call centre activity, that can be best interpreted by taking into account the fact that the change of address project is based on a multi-channel delivery approach and foresees, in the first years of operation, a strong need for user support.

2.3. Short Guide to Activity Based Costing

In the following pages we provide a short operational guide for the adoption of Activity Based Costing (ABC) for the monitoring of eGovernment costs.

2.3.1. Mapping Processes/Activities and Data Gathering

A prerequisite for the application of ABC techniques are: a) an in-depth analysis of the processes and activities needed for the set up, provision and maintenance of a given eGovernment service; b) the identification of data gathering methods.

To do this, a number of standard process analysis and description techniques are available, some of which we briefly review below.

Flow Charting

Flow charting is the simple and standard temporal/sequential technique for analysing and designing organisation information flows.

Exhibit 8 Flow charting Symbology
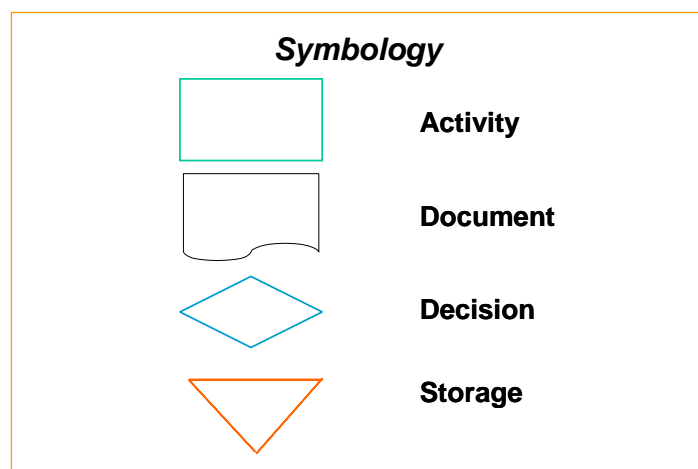
Source: Adaptation from RSO internal methodological material

Symbology is extremely simple: every icon corresponds to an activity realised by an organisational unit. Nevertheless this model allows one to identify only a few organisational criticalities and moreover every organisational change (a very frequent phenomenon today) implies a representation revision.

DFD – Data Flow Diagrams

Data Flow Diagram is a graphic representation of the "flow" of data through business functions or processes and is generally used for the visualization of data processing. It illustrates the processes, data storage, external entities, and data flows and the relationships between them. Physical DFD's represent physical files and transactions, while logical or conceptual DFD's can be used to represent business functions or processes. DFDs can be used to describe an existing system, or can describe the requirements for a proposed or planned system. DFD's are more dynamic than flow charting and do not need major revision to account for organisational change. The exhibit below presents one among the various DFD's symbologies in use.

Exhibit 9 DFD – Chen Symbology
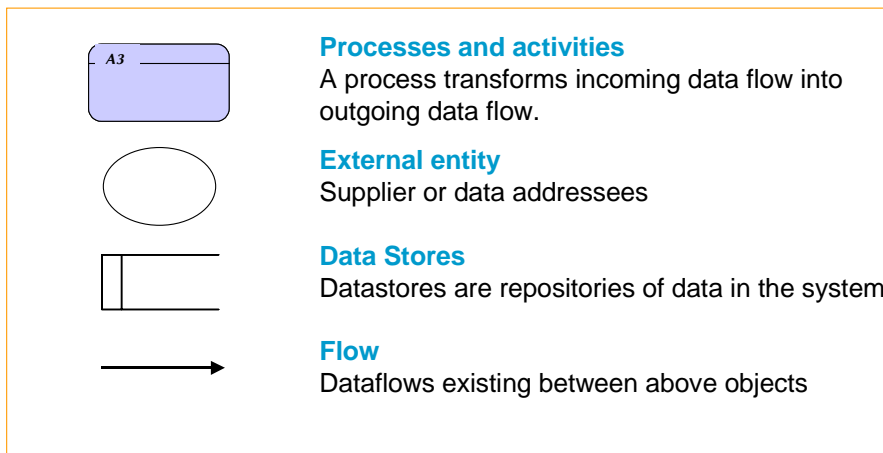
Source: Adaptation from RSO internal methodological material

Workflow Analysis

Workflow Analysis[18] analyses customer/supplier relations within the process. Every process consists of several relations (transactions) among roles cooperating to achieve customer satisfaction.

Exhibit 10 Basic customer/supplier relations workflow model

Source: Adaptation from RSO internal methodological material

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[18] See for instance T. Schal, *"Workflow Management Systems for Process organizations"* in Lecture Notes in Computer Science, (1997), p. 37

Every transaction is characterized as "an obligations cycle" between a customer and a supplier (workflow) oriented towards guaranteeing a service to the customer (transaction object). In this approach the basic unit of process is a four-step action workflow protocol. In the first phase of the loop (request phase), the customer asks for a service or product. In the second phase (commitment phase) the supplier promises to fulfil a specific condition. The supplier's agreement with the customer's request, possibly modified during the commitment phase due to a negotiation, corresponds to the promise transition from state 2 into state 3. The second phase is not always straight forward. In this case the supplier negotiates with the customer to meet a corresponding condition of satisfaction. The negotiation in the commitment phase includes the possibility to counteroffer. In this case there are two paths for concluding the commitment phase: the customer accepts the counteroffer, or the customer makes a second counteroffer which the supplier accepts. In all other cases the commitment phase leads into states where no further moves are possible. In the third phase (performance phase) the supplier fulfils his/her work which leads to the delivery of the requested service or product. The final phase (evaluation phase), closes the loop and involves the customer's acknowledgement or formal declaration of satisfaction (or non satisfaction) after the customer receives the service or product. At its simplest, this declaration is a thank you or the payment for the service/product.

For any of the above macro phases there may be additional actions, such as clarifications, further negotiations about conditions, and changes to the commitments by the participants. Complex processes are thus broken down into sub workflows according to the four-phase model.

This methodology is particularly suited for public administration service process analysis and redesign as it points out:

- ❑ Relations and obligations among the process actors;
- ❑ Organisational relations acting to guarantee the services required;
- ❑ The objective system and interconnections and hierarchies to guarantee final customer satisfaction;

S:A:D:T:/IDEF0

IDEF0[19] (Integration Definition language 0) is a structured methodology for functional process analysis with a long history of successful application. It provides the instrument to describe two activity models.

The first is the "AS-IS" model, which shows the current (baseline) structure of a functional process. The second is the "TO-BE" model which shows the objective (target) structure of a functional process. For the purposes of elaborating, the map of processes and related activities needed for applying Activity Based Costing, the "AS-IS" model, is sufficient.

IDEF0 has a number of defining characteristics, among which the following three make it particularly suitable for supporting Activity Based Costing:

- ❑ The functional analysis is top-down, modular, hierarchical, and structured;
- ❑ Provides an activity model independent of both organization and time;
- ❑ Is a diagramming technique that shows component parts, inter-relationships between them, and shows how they fit into a hierarchical structure;

IDEF0 diagrams progress from high level representation of a given system of processes and proceeds to progressively break them down into lower level sub-processes and activities to be more specific. The basic building block used in IDEF modelling is the ICOM, which stands for

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[19] See for instance Office of Information Technology, FAA, (1995) *"Business Process improvement – Handbook of Standards and Guidelines"*, (see also the website http://faa.gov/ait/bpi/handbook/index.htm, accessed September 2005).

Input, Control, Output and Mechanism. Below is a generic ICOM that shows the relationship of the Input, control, Output, and Mechanism to the activity.

Exhibit 11 IDEF0 Diagrams representation system

Control

Controls
Those elements related to the activity that constrain or govern how the activity will be conducted. Examples include policy, budget constraints, and customer requirements.

Input
That which will be transformed by the activity or process. These include material and information.

input → **Activity** → **output**

OUTPUT
The result of the activity. This is the input after it is transformed by the activity.

Mechanism

Mechanisms
Those things that accomplish or support the activity. The mechanism may be people, systems, facilities or equipment necessary to accomplish the activity. The direct costs of doing an activity are associated with the mechanisms.

Source: Adaptation from RSO internal methodological material

The single box is decomposed into its, sub-activities, which will have more specific names, and in turn the arrows will be more specific. Each of those boxes will be decomposed into its sub-activities, which will have more specific names and their interfaces will be more specific. Even though the diagrams may have fewer activities and interfaces, the information they contain will become more detailed.

Exhibit 12 IDEF0 Diagrams representation system
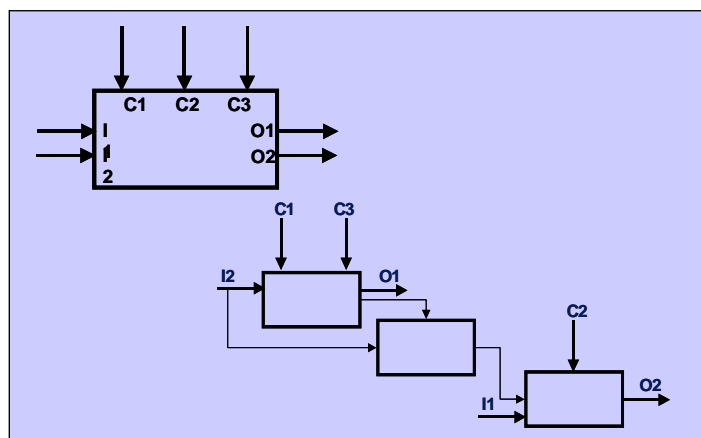
Source: Adaptation from RSO internal methodological material

IDEF0 modelling accomplishes the most complex task of identifying discrete activities and then defining their primary input and output.

Identification of Data Gathering Methods

There are several techniques available for the gathering of the data on **cost** and **time performance** needed for ABC. Data can be collected through interviews, time registration sheets, and documentation reviews. Usually a combination of the three methods is the best choice to have a complete and accurate picture. In particular, interviews are always needed in view of the fact that internal recording systems (including accounting) are not always consistent. Most cost records are held manually and paper based. Time registration methods can be used to collect the time spent for each particular activity from a sample representative set of employees (i.e. director of division, chiefs of sub-divisions, supervisors, administrators, employees, etc.).

2.3.2. Gather Costs

At this stage Cost objective(s), aggregate costs, and cost drivers must be clearly identified and the relevant data gathered.

By **Cost objective(s)** in the relevant cost analysis literature, is intended anything for which a separate measurement of costs is sought. It can be a department, a service, a product, a project, a group of activities, etc. In the case of eGovernment it will be the set up, provision and maintenance of any given eGovernment service provided by a public administration

The **cost driver** is the concrete mechanism generating the actual consumption of activity/resources by a given cost objective. For instance, if the quality control activity is an overhead cost to be attributed to eGovernment service X, the cost driver unit for service X is the number of quality inspections performed specifically for that service. In the example above, this relationship is quite straightforward since the number of inspections performed for service X (appropriately valorised) determine, in a clear cut way, how much of the general cost incurred in general for quality control is uniquely attributable to service X. Other instances may not present such immediate and straightforward cause-effect relationships and require some more careful analysis.

Aggregate costs that contribute in various degrees to form the cost of the identified cost objective must be gathered and serve as the base line. When documents for the costs incurred are not available, cost assignment formulas and estimates may be used.

More operationally:

❑ Elaborate a Cost Element Structure for Set up, Provision and Maintenance:

	Cost element	Quantity	Unit Cost	Total amount
Set up				
Provision				
Maintenance				

❑ Identify main cost drivers for each main activity:

Macro-Activities	Activity	Cost Drivers	eService n°1	eService n°2	eService n°3
Set up	Business Plan Definition				
	Marketing plan				
	System planning				
	System acquisition				
	System development				
	Change management				
	Training				
Provision	System management				
	Ongoing training				
	Customer help desk management				
	Call centre management				
Maintenance	Hardware maintenence				
	Software maintenance				
	Performance measurement and quality control				

2.3.3. Costs to activities, Output measures, Cost Calculations

On the basis of the activities map developed and of aggregate cost data, lower level components of cost must be assigned in a detailed way to all the activities and sub-activities.

Costs/Activities Matrix	Set up							Provision				Maintenance				Total
	Business Plan Definition	Marketing plan	System planning	System acquisition	System development	Change management	Training	System management	Ongoing training	Customer help desk management	Call centre management	Hardware maintenence	Software maintenance	Performance measurement and quality control		Total

The activity unit cost is calculated with respect to its primary output, by simply dividing the total cost assigned (depending on the complexity of the business process, this cost may include also that of the secondary supporting activities whose output is an input for the primary activity) by the volume of the primary output.

Finally the unit cost of each activity is attributed to a given cost objective as a function of the earlier defined cost driver, or more precisely of the cost driver unit of measure.

3. eGovernment Financing Country Profiles

Premise

The following document section is aimed at providing an accurate and updated picture of the ongoing eGovernment and IT public projects funding systems in the 25 UE Member States. This initiative can be considered both as a preliminary step towards the assessment of the current European trends referred to the analysed issue and as a value-adding insight on the different national public financing mechanisms.

For every Member State, in fact, data and information will be presented and conceptually organised by adopting the following scheme:

1. **Financing trends**: in this section a brief but comprehensive description of the overall national financing tendencies will be presented. There will be taken into account, in particular, the most noticeable modifications such financing procedures have experienced through the last few years. Such preliminary analysis will be deepened by the following

2. **Financing mechanisms** section, divided into three sub-items: besides the provision of the **central government** and of the **other administrative layers** (i.e. regions and municipalities), an ad-hoc sub-section will be dedicated to the **alternative/innovative financing systems**, whose relevance in the UE-context has been firmly remarked during the last few years[20]. Such systems comprise respectively the *EU financing mechanisms*, thus principally including Structural and Cohesion Funds, and the *private sector involvement procedures*, i.e. outsourcing mechanisms and public/private partnerships;

The analytical framework will be enriched by some **focuses on national peculiarities**, with the aim of taking into account particular aspects of the topic without renouncing to a general and comparable organisational scheme.

Austria

Financing trends

The Austrian eGovernment project financing system relies on a strong interaction among all administrative layers, which tend to cooperate under the supervision of the Central Government layer represented by the Austrian eGovernment Chief Information Office (CIO).[21] Such institution, directly linked to the Federal Chancellor, defines the evolution guidelines of the public service digitalisation by exchanging information with a broad range of institutional and not-institutional stakeholders, as stated in most of eGovernment-related laws, regulations and other official documents published during the past years[22].

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[20] Related to this topic, see European Commission (2004), *Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions*, European Commission, Brussels (available at http://europa.eu.int/eur-lex/en/com/gpr/2004/com2004_0327en01.pdf, accessed September 2005).

[21] CIO homepage: http://www.cio.gv.at/, accessed September 2005.

[22] See, among others, the "Inter-Administrative Cooperation" chapter in ICT Strategy Unit (2004), *Administration on the Net – An ABC Guide to eGovernment in Austria*, ICT Strategy Unit, Vienna,

The Austrian cooperative eGovernment framework can be identified in the adopted project financing system, which tends to involve both non-central administrative units[23] and the international industry landscape, especially by recurring to the Public-Private Partnership mechanism: in this perspective, a remarkable role is played by the February 2000 launched "Digital Austria Initiative", a PPP-financed cross-cutting project.

Financing Mechanisms

Central Government

Internal resources are managed by the Central Information Officer, which is responsible for the Federal ICT Board, the steering committee for ICT public issues[24], founded in 2001. The Board is composed by the CIOs of the Austrian Federal Ministries, which discuss with the Federal CIO, on an annual basis[25], on how resources available for eGovernment have to be allocated.[26]

Cross-cutting projects are usually discussed within the strategic platform Digital Austria[27] and co-financed by the budget of the involved Ministries.

Other administrative layers

The Federal ICT Board is also responsible for managing the relationship with the lower administrative layers[28]. Municipalities are assembled in two institutional associations, namely the Austrian Association of Cities and Towns (whose members are 248 large municipalities) and the Austrian Association of Municipalities (2346 small and medium municipalities). Such institutional associations participate to the so-called *eGovernment Working Group of the federal, regional and local authorities* (hereinafter simply "eGovernment Working Group", i.e. the ad-hoc institution in charge of managing the country-wide eGovernment projects.

Funding mechanisms adopted for such projects are based on the *inter-institutional cooperation* principle: the eGovernment Working Group institutional members decide autonomously the funding size. This procedure is aimed at granting to every administrative unit the parallel self-government right, as stated in the national fundamental law[29].

Smaller projects are usually financed through smaller institutional unit groups, which decide the fund amount through bilateral or multilateral agreements.

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available at http://www.cio.gv.at/egovernment/umbrella/BEHOERDEN_ABC_final_engl.pdf, accessed September 2005.

[23] The shared responsibility principle is stated in the eGov Working Group foundation act at Federal Chancellery (1998), *IT Kooperation zwischen Bund und Laender A02*, Federal Chancellery, available at http://verwaltunginnovativ.wienerzeitung.at/itoe98.pdf, accessed September 2005.

[24] The IKT was founded in order to rationalise the eGovernment planning and management processes a part of the wider public administration reform undertaken by the Austrian central government in 2001. Sources: Austrian Federal Chancellery (2003), *Anlage zum Ministerratsvortrag VIP – VIP Massnahmenkatalog*, Federal Chancellery, available at http://www.austria.gv.at/2004/4/22/vip-massnahmen.pdf, accessed September 2005, and http://www.cio.gv.at/faq/ikt-board/?print=1 (Information page on IKT-Board activities), accessed September 2005.

[25] For an explanation of the national budget assessment procedure, see Bundesministerium fuer Finanzen (BMF) (2005), *Budget 2005. Zahlen – Hintergruende – Zusammenhaenge*, BMF, Wien, available at https://www.bmf.gv.at/Budget/NEUBroschrezumBudget/budget05_zahlen_hintergruende_zusammenhaenge.pdf, accessed September 2005.

[26] See ICT Strategy Unit (2004), *Administration on the Net,* cited.

[27] eGEP phone interview to Mr Spitzenberger, Federal ICT Board, September 2005.

[28] *Ibid.*

[29] See Federal Chancellery (1998), *IT Kooperation…*, cited.

Alternative/innovative financing mechanisms

Besides the direct funding mechanisms presented in the paragraphs above, Austrian institutional entities also adopt *Public/Private Partnership (PPP)* funding mechanisms[30]. Such cooperation framework is adopted both at the central and at the lower administrative layers: successful examples of PPP can be identified, in fact, in the realisation of the unique portal help.gv.at, i.e. the gateway to the eServices provided by all the Austrian public administration, and in the establishment of public internet-kiosks in the Municipality of Vienna.

Austrian public administration also outsources eGovernment projects to private or public-private companies: a State-participated company, namely the "Bundesrechenzentrum GmbH", absorbs around 50% of the public IT market[31].

Concerning the *European Funds* collection mechanisms, the overall responsibility of the application process is assigned to the eGovernment Working Group[32].

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[30] An important contribution to the issue is given by Wagner, G. K. (2004), *Lessons of PPP in the Austrian ICT and eGovernment sector*, proceedings of the *Global ICT Conference 2004* held in Baku, Azerbaijan, on 25-28 November 2004. Full text of the intervention is available at http://www.global-ict.mincom.gov.az/presentations/24.ppt, accessed September 2005.

[31] eGEP phone interview to Mr Spitzenberger, Federal ICT Board, September 2005.

[32] See Federal Chancellery (1998), *IT Kooperation zwischen Bund und Laender…*, cited.

Belgium

Financing trends

Considering the federal structure of Belgium, it is easy to understand that the responsibility for designing and implementing IT projects and eGovernment strategy is shared among the different administrative levels: the federal government, three Regions (Flanders, Wallonia, and Brussels), and three Communities (Flemish, French, and German-speaking). Responsibilities and competences among the administrative layers are clearly defined. Regions are competent for regional matters (town and country planning, nature conservation, housing, water policy, housing, local authorities, employment policy, public works and transport). Communities are responsible for personal matters (health and welfare), culture, education and training, and cooperation with regions.

In Belgium, the first steps towards the implementation of ICT and eGovernment were made since the end of 1990s, with the introduction of Fedenet, the Intranet of Belgian Federal Government, funds from the federal government that were aimed especially at infrastructural programmes. In fact, as general function division, the federal level is responsible for the coordination of a shared infrastructure and of the interoperability of regional solutions.

The amount of the public investments at federal level registers a growing trend: i.e., the total of traditional public investment has increase by about 10%.

Financing Mechanisms

Central Government

At federal level, the principal source of founds for eGovernment projects is represented by the budget allocations. Traditional funding methods constitutes about the 83%-82% of the total amount of public investments in eGovernment projects[33]. As general indication, the "build" phase of eGovernment projects should be financed by funds from the *Société Générale de Participation,* while the "operate" phase and the back-office reorganisation activities should be financed through the general budget[34].

Other funds derive from the auction of UMTS licenses, in addiction to Public-Private Partnership, and Sponsorships, as it will better illustrated in the following pages.

Other Administrative Layers

The implementation of the national eGovernment strategy requires a strict collaboration among the different administrative layers, which had an official statement with the signature by representatives of the many political authorities of the *Cooperation Agreement[35]*, through which federal, regional and community authorities commit themselves to use the same standard and identification infrastructure.

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[33] See the *Budget des Recettes et des Dépenses pour l'année budgetaire 2005*, approved by the Chamber of Representatives October, the 29th, 2004, available at http://www.budgetfederal.be/f/h2/AlgToelFR2005.pdf, accessed September 2005

[34] Such general guidelines are presented in many official documents from the Federal Chamber of Representatives and Senate. See, for example, the Federal Senate Session of 2000-2001, available online at the address http://www.senat.be/wwwcgi/get_pdf?33575981, accessed September 2005.

[35] The Cooperation Act, signed in March 2001, is available online at the address http://www.belgium.be/eportal/ShowDoc/fed_ict/imported_content/pdf/samenwerkingsakkoord032001fr.pdf?contentHome=entapp.BEA_personalization.eGovWebCacheDocumentManager.fr, accessed September 2005.

The principal financing source at federate level consists of funds from the federal government, which come from both direct (income tax) and indirect taxation (value-added tax). Other funds derive from non-fiscal revenues (i.e., legacy sales, registration fees, etc.), from autonomous taxation, as well as from loans[36].

Such sources are employed in funding eGovernment local projects and initiatives, even if with different amounts. In addiction, alternative financing mechanisms are broadly widespread, as it will be better explained in the following sub-paragraph.

Alternative/Innovative financing mechanisms

In addition to public investments (at federal, regional and community level), alternative financing sources had an important role since the very first phases of eGovernment implementation, in the period 2000-2001. Moreover, the use of such resources was not limited only to the federal levels of Belgian administration, but was extended also to the region and municipality layers[37].

In particular, alternative funding mechanisms are foreseen to be about the 17-18% of the total amount of eGovernment federal funds[38]. A relevant role in financing eGovernment projects is played by the *Société Générale de Participation*, a publicly owned financing enterprise, whose main tasks regard financing the "build" phase of eGovernment implementation, especially at federal level. Other funds derive from the auction of UMTS licences, whose revenues were used both for reducing the public debt: the consequent saving of interests finance initiatives in the domains of Information Society and eGovernment.

Local authorities rely upon forms of Public-Private Partnership, as well as on private sponsorships, especially with banks and financial institutions. Such forms of collaborations have had one of their more visible results in the *Inforum* initiative, the knowledge database of Belgium judicial information for local authorities[39], that has been financed by Municipalities through the UVCB (Union des Villes et des Communs Belges[40]), in cooperation with Dexia, one of the principal Belgian financial institutions.

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[36] Each federate entity illustrates its financing resources. See, for example, the official website of the French-speaking Community, at the address http://www.edimedia.be/_cfwb/communaute/pg04.html, accessed September 2005

[37] See, for instance, the Federal Senate Session of 2000-2001 (ibid.), where the interventions of many local administrators (from Wallonie, and other regions) prove the widespread diffusion of such funding mechanisms.

[38] See the *Budget des Recettes et des Dépenses pour l'année budgetaire 2005*, ibid.

[39] See http://www.inforum.be/index2.html, accessed September 2005

[40] For more information see http://www.uvcb-vbsg.be/uvcb/homeFR.htm, accessed September 2005.

Cyprus

Financing trends

Due to its reduced geographic and demographic dimension, Cyprus manages eGovernment projects mainly at the central government layer, while lower administrations are mainly involved in continental political networks. Even before 2004[41], a major role has been played by the EU financing procedures, as it will be better explained in the following paragraphs.

Financing Mechanisms

Central Government

Cypriot eGovernment issues are managed by the national Department for Information Technology Services (henceforth DITS)[42], an ad-hoc Working Unit operating under the authority of the Ministry of Finance. The overall financial responsibility, however, is assigned to the promoting Ministries, which are in charge of funding the projects during its realisation and its maintenance stage[43]. Such projects can be funded either only by internal public resources or also by EU resources.

There is a specific budgetary chapter for the implementation of IT projects and computerisation services (Head 18.09.00.3 - Subhead 07.681 Data Processing Equipment, Software and Services). This is under the control of the Ministry of Finance and the Department of Information Technology Services (DITS). All Government (User) Departments have to go through DITS to initiate a computerisation project. Depending on the type of the project (i.e. complexity, cost, changes in established procedures or legislation, etc) the approval for the initiation and the budget of the project is given by the Director of DITS or the Ministry of Finance which might opt to refer the request for approval to the Executive Board of Computerisation or the Ministerial Committee. In order to get the final approval of budget release/payments for a particular project, this payment has to be included in the specific year's approved budget. DITS annual budget is prepared in Q1 or early Q2 of the previous year and it gets final approval by the Ministerial Committee and the House of Representatives by late Q2 or early Q3[44].

Other administrative layers

As already mentioned, lower administrative layers are not significantly involved in the eGovernment services provision and financing process. It must be highlighted, however, that the Union of Cypriot Municipalities[45] is currently involved in the Council of European Municipalities and is represented in the Council of Europe's Congress of Local and Regional Authorities of Europe and in the Committee of the Regions of the European Union, thus showing their will to co-operate in the main European Public Administration networks[46]. Such

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[41] European Commission, IDABC Observatory, *eGovernment Factsheets – Cyprus – History*, European Commission, Brussels, available at http://europa.eu.int/idabc/en/document/1392/388, accessed September 2005.

[42] Department for Information Technology Services website homepage: http://www.mof.gov.cy/mof/dits/dits.nsf/dmlindex_gr/dmlindex_gr?OpenDocument, accessed September 2005.

[43] eGEP phone interview to Ms Klippi Pekri, Department for Information Technology Services, September 2005.

[44] *Ibid.*

[45] Website homepage: http://www.ucm.org.cy/, accessed September 2005

[46] See http://www.ucm.org.cy/eng/about.htm, accessed September 2005.

involvement could pave the way for the inclusion of Cypriot municipalities in local administration eGovernment European networks.

Innovative/alternative financing mechanisms

As previously stated, Cyprus benefits by both European Structural Funds (53,3 M€ for the period 2004-2006) and the UE Cohesion Fund (54 M€ for the same period). EU funding, coordinated by the Cyprus Government Planning Bureau, is secured by the involved User Department and not by DITS. Such projects include IACS (Integrated Administration and Control System - Ministry of Agriculture), Structural Funds (Planning Bureau) and eProcurement (Government Treasury)[47]. Only a minor part of these funds, however, will finance eGovernment projects: the Cohesion Fund, in fact, is addressed to the development of rural areas and of urban areas in decline, while the Structural Funds finance the promotion of active labour market policies and the improvement of education, training systems and life-long learning systems (eLearning area)[48].

In April 2004 a Contract was signed with the European Investment Bank with the aim of funding 5 major IT Projects: namely the Office Automation Roll-Out, the New Health Information System, Enhancements of the Financial Integration Management System (FIMAS), New VAT System and the Legal Information System.[49].

Sponsorships are not really "accepted" by the Government for IT projects. Public-private partnerships do not exist. The majority of the projects, especially large and complex ones, are outsourced, in most cases through open tenders competition[50].

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[47] eGEP phone interview to Ms Klippi Pekri, Department for Information Technology Services, September 2005.

[48] European Commission, DG Information Society, *Community Support for eGovernment processes in new acceding Countries*, European Commission, Brussels, available at http://europa.eu.int/information_society/activities/egovernment_research/doc/accession_country/acceding_final_report.pdf, accessed September 2005.

[49] eGEP phone interview to Ms Klippi Pekri, Department for Information Technology Services, September 2005; European Commission, IDABC Observatory, *eGovernment Factsheets – Cyprus – History*, cited.

[50] eGEP phone interview to Ms Klippi Pekri, Department for Information Technology Services, September 2005.

Czech Republic

Financing trends

The Ministry of Informatics is the national co-ordinator of the development of public administration information systems and of eGovernment development. The Government believes that a major role in the development of eGovernment must be played by private investors financing the expansion of information and communication technologies. A part from supporting investments from the private sector, the Government of the Czech Republic gives emphasis on making the most of EU funds for eGovernment projects. Talking about private investments, the Government feels that it should create favourable legislative and non-legislative conditions to stimulate private investments in new technologies, especially in regions facing structural problems and with high unemployment[51]. One of the main concerns and priorities is the building and the operation of infrastructure within the public administration.

A part from this financing trends of the Government it worth mentioning the fact that, like all the rest of the newly accessed Member States, also Czech Republic takes advantage from the wide opportunities brought by EU membership (i.e. EU co-financed projects). Czech Republic has not developed its specific plan for using Structural Funds allocations to support eGovernment and Information Society initiatives yet.

Financing Mechanisms

Central Government

The financing of eGovernment projects at central level is characterised by two ways of allocating funds[52]. Firstly, each Ministry has its own budget to be assigned to eGovernment projects; secondly, more concrete big eGovernment projects (such as for infrastructures) are centrally managed through the national budget.

Other administrative layers

Also local eGovernment projects have a twofold way of being sponsored. In fact, local authorities can both use their own budget independently, and also apply for national grants allocated for specific projects.

Alternative/innovative financing mechanisms

The Czech Republic eGovernment development can count on EU funds and also public/private partnerships. With regard to the first tool, like most of the newly accessed Member States, also the Czech Republic is granted the European Regional Development Funds from the EU Structural Funds[53]. With regard to the second way of financing, each Ministry, when allocating money for eGovernment projects, calls for participation from the private sector.

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[51] Ministry of Informatics, (2005), *State Information and Communications Policy*, available at http://www.micr.cz/files/1288/ENG-SIKP.pdf, accessed September 2005

[52] eGEP phone interview to Jitka Novotna, Ministry of Informatics, Directorate of eGovernment Projects, September 2005

[53] See http://www.evropska-unie.cz/eng/article.asp?id=2761, accessed September 2005.

Denmark

Financing trends

The actual eGovernment Strategy was published in February 2004 for the period 2004-2006. It is an extension of the previous strategy, which covered the period 2001-2003. Its formulation was made by the Danish Joint Board of eGovernment Project[54], which includes permanent secretaries from five ministries, the managing directors of the associations of County Councils and Municipalities, and a representative of the two largest municipalities (Copenhagen and Frederiksberg). The coordination activity is assigned to the Digital Task Force[55], organically linked to the Ministry of Finance, while the implementation is managed by the Ministry of Science, Technology and Innovation[56], as well as to the several government departments and agencies interested.

In order to achieve the strategic objectives, a strong emphasis is put on the development of incentives and financing, which is defined in the national strategy as a "Focus area"[57]. A number of key activities are identified in order to comply with the so-called "harvest-sow" problem, i.e., the possibility that the original investors in eGovernment projects are not those who reach the benefits, and they consist in:

❑ providing some simple financing models which will remove or limit the "harvest-sow" problem, as well as multi-year budget agreements

❑ ensuring that the financial incentives provided motivate authorities to meet the strategy's goals

Financing Mechanisms

Central Government

According to the general structure of Danish State, many competences in implementing national policies are attributed to local governments bodies (as, for example, many welfare functions), including eGovernment[58]. There are, however, some general budget funds allocated to public sector IT and eGovernment projects.

Other Administrative Layers

The local government of Denmark is organised on two levels: the regional levels is represented by the counties or districts, while the local level is represented by the municipalities. As Danish government adopted a highly decentralised attribution of powers and competences between central and local administrative bodies, an elevated degree of autonomy is recognized to local agencies even in the domain of eGovernment.

Generally speaking, local authorities expenditure represents about the 50% of total public expenditure[59]. Funds for eGovernment projects implementation derive from local financial resources (as, for example, local taxation), but also from central government transfers. In particular, Denmark central-local financing relations are characterised by the presence of

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[54] See http://www.e.gov.dk/english/egovernment/, accessed September 2005

[55] See http://www.e.gov.dk/english/project_egovernment/the_digital_taskforce/index.html, accessed September 2005

[56] See http://www.videnskabsministeriet.dk/cgi-bin/news-archive-list.cgi, accessed September 2005

[57] See Danish Digital Taskforce, (February 2004), *The Danish eGovernment Strategy,* Copenhagen, available at http://e.gov.dk/uploads/media/strategy_2004_06_en1_01.pdf, accessed September 2005

[58] See http://www.e.gov.dk/english/egov_projects/local_projects/index.html, accessed September 2005

[59] See http://www.fm.dk/1024/visPublikationesForside.asp?artikelID=7050, accessed September 2005

institutionalised budget collaboration. This collaboration works through annual negotiations between central and local government organisations resulting in a framework agreement for the two levels of the local government[60].

Furthermore, local government bodies are members of category associations that, in addiction to representing them in the budget collaboration procedure, helps local administrations to implement programmes and projects, giving also support for the realisation of common initiatives[61].

Alternative/Innovative financing mechanisms

An important role in implementing Danish eGovernment projects is played by *KDM-Kommunedata*[62], a company created in 1972 through the merger of many municipal IT departments. The company is actually owned by Danish regional and local authorities, through their associations. It is one of the main IT services and solutions provider for public sector authorities, and, in addition, it manages a number of administrative tasks outsourced by public agencies and provides consultancy services for the realisations of IT projects.

The execution of Danish eGovernment projects is realised also by recurring to public-private partnerships. As yet mentioned, Danish eGovernment strategy puts a strong accent on the development of incentives and efficient financing instruments[63]. Public-private partnerships are considered as powerful tools to enhance the economic efficiency of eGovernment projects. To promote the diffusion of this mechanism, a dialogue between public and private actors has been promoted, which resulted in a common document enhancing[64]:

- ❑ The importance of managerial involvement since the first phases of the projects
- ❑ The relevance of establishing business cases and agreeing on common goals
- ❑ The necessity of flexibility in developing solutions in partnerships.

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[60] For more information, see http://www.fm.dk/1024/visArtikel.asp?artikelId=3734, accessed September 2005

[61] See the Danish Regions Association, (http://www.arf.dk/English/Frontpage.htm, accessed September 2005), and the Association of Local Authorities (*Local Government Denmark*), at http://www.kl.dk/, accessed September 2005)

[62] See http://www.kmd.dk/. accessed September 2005

[63] See Danish Digital Taskforce, (February 2004), *The Danish eGovernment Strategy,* Copenhagen, cited.

[64] See http://www.e.gov.dk/english/results/examples/egovernment_and_partnership/index.html, accessed September 2005

Estonia

Financing trends

Estonia is a rather decentralised country and the development of information systems mostly falls under the responsibility of IT managers in ministries, county governments, boards and inspectorates. The central co-ordination deals with strategic planning, setting of priorities and, what interests us most, ensuring financing for these[65].

The co-ordination of the information policy is assigned to the Ministry of Economic Affairs and Communications. The implementation of the information policy is based on information policy action plans, drafted at the beginning of each year and setting out activities that different state agencies are planning to initiate for the development of the information society. These action plans state what the responsible authorities and the expected outputs are, and give an evaluation of the finances and then they are submitted to the Government of the Republic for approval before the drafting of the state budget[66].

From 1994 to 2002 the Estonian state budget included a separate expenditure item "Information technology" for covering most of the investments in the purchase of hardware and software, for costs of maintenance and preservations of ICT infrastructure. The share of information technology costs has throughout years formed about 1% of the overall figure of costs in the state budget and it has increased together with the increase of the overall figure of the state budget[67].

In connection with the amendment of the state budget act, the expenditure item for IT costs was removed from the state budget draft from 2003. Instead these costs have now been included in the articles "economic costs" and "obtainment and renovation of material and immaterial assets"[68].

Financing Mechanisms

Central Government

In the ministries the development of information systems is co-ordinated by a ministry's IT council, which approves the ministry's IT strategy and, proceeding from the information policy, plans measures for its implementation. As said above, most of the financing of IT projects (and therefore also of eGovernment) come from the central layer of the Government.

During the 2000-2001 period several larger towns in Estonia started to develop their own eGovernment initiatives independently, and many of these services overlapped from town to town, but they all planned separate investments. The national Government established an obligation to coordinate and co-finance the development of municipality eGovernment services under the State Information Systems Development Centre (RIA) within the Ministry of Economic Affairs and communication.

Other administrative layers

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[65] *IT in Public Administration of Estonia. Yearbook 2004*, Ministry of Economic Affairs and Communications, available at http://www.riso.ee/en/pub/2004it/, accessed September 2005.

[66] *ICA Country Report 2004 – Estonia*, (October 2004), available at http://www.ica-it.org/conf38/docs/Conf38_country_reports_estonia.pdf , accessed September 2005.

[67] See http://www.esis.ee/ist2004/65.html, accessed September 2005

[68] *Ibid.*

At regional level, ICT development is co-ordinated by IT councils established at county governors' offices. IT councils organise the elaboration of counties' IT strategies and plan measures for their implementation.

Any Estonian municipality can apply for funding to the RIA (State Information Systems and communication Centre, within the Ministry of Economic Affairs and Communication) in order to co-develop a new eGovernment project. The new application is therefore jointly financed by the RIA that also co-manages it in order to ensure compatibility. Once the service is tested in the pilot municipality it will be provided free of charge to all other municipalities so each one of them can start providing the same service (in order to avoid overlapping in eGovernment projects, as mentioned before)[69].

Alternative/innovative financing mechanisms

In 2001 the Government and a number of private companies announced the "Look @ the World project[70], and private companies have then declared that they were willing to invest a sum equal to the Government's yearly IT budget[71].

A part from this contribution from the private sector, one of the main sources of funding are the EU Structural Funds that Estonia strategically implemented submitting to the European Commission a document called "Estonian National Development Plan for the Implementation of EU Structural Funds – Single Programming Document 2004-2006". The total funding for the projects related to the development of the information society until 2006 will be slightly more than 8.32 M€, of which 25% will be provided by the State[72].

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[69] Ministry of Economic Affairs and Communications (2004), *IT in Public Administration of Estonia. Yearbook 2004*, Ministry of Economic Affairs and Communications, Tallin, available at http://www.riso.ee/en/pub/2004it/, accessed September 2005.

[70] See www.vaatamaailma.ee, accessed September 2005

[71] See http://www.est-emb.fr/lang_4/rub_585/rub2_590/rubviide_206, accessed September 2005.

[72] See *IT in Public Administration of Estonia. Yearbook 2004,* cited.

Finland

Financing trends

Finnish provision of eGovernment services is based on a strong autonomy given to all administrative layers: Central Government and Municipalities, in fact, are largely independent in assessing their public ICT expenditure size. A recently appointed authority, the State IT Management Unit, is responsible for assessing the overall Central Government eGovernment strategy and for managing cross-cutting projects[73].

Coordination between the central and the lower administrative layers is granted by the Advisory Board for Information Management in Public Administration (Julkisen hallinnon neuvottelukunta, henceforth JUHTA)[74], set up at the Ministry of the Interior,: one of JUHTA's most successful projects is JUHLA, the public sector eMail and Contact service, directly aimed at fostering the interaction among State institutions and local authorities[75].

Besides direct financing mechanisms, Finnish administration widely adopt outsourcing procedures: such contract type constitutes the main alternative funding source in the national eGovernment landscape[76].

Financing Mechanisms

Central Government

No ad-hoc financing fund has been provided yet: resources for the realisation of eGovernment projects are comprised in the normal State budget. Under the supervision of the State IT Management Unit, every Ministry is responsible for funding their own initiatives[77]; inter-ministerial projects lay under the financial responsibility of the Ministry of Finance[78].

The need for a better co-ordination among ministries' activity has been claimed by the most recent report on Information Society progressing, *Towards a networked Finland*[79], as well as in the Ministry of Finance *Decision on Central Government Spending Limits 2006-2009*[80].

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[73] European Commission, IDABC Observatory, *eGovernment Factsheets – Finland – History*, European Commission, Brussels, available at http://europa.eu.int/idabc/en/document/1388/392, accessed September 2005.

[74] Website homepage: http://www.intermin.fi/intermin/hankkeet/juhta/home.nsf/pages/indexeng, accessed September 2005.

[75] Organisation for Economic Co-operation and Development (OECD) (2003), *eGovernment in Finland*, OECD, Paris, available at http://egov.alentejodigital.pt/Finlandia/43111.pdf, accessed September 2005.

[76] eGEP phone interview to Mr Seppo Kurkkinen, Ministry of Finance, September 2005.

[77] Organisation for Economic Co-operation and Development (OECD) (2003), *eGovernment in Finland,* cited.

[78] Website homepage: http://www.vm.fi/vm/liston/page.lsp?r=2622&l=en, accessed September 2005.

[79] Information Society Council (2005), *Towards a networked Finland – The Information Society Council's Report*, Information Society Council, Helsinki, available at http://www.tietoyhteiskuntaohjelma.fi/tietoyhteiskuntaneuvosto/en_GB/information_society_council/_files/11233297000012864/default/TietoYnRap-Eng-7-6-05.pdf, accessed September 2005.

[80] Ministry of Finance (2005), *Decision on Central Government Spending Limits 2006-2009*, Ministry of Finance, Helsinki, available at http://www.vm.fi/tiedostot/pdf/en/92324.pdf, accessed September 2005.

Local Government

Finnish municipalities fund their eGovernment projects by themselves, i.e. adopting self-funding mechanisms based on the proper taxation levers[81]. Posed under the JUHTA's supervision, some inter-municipal eGovernment projects have been recently launched. Inter-institutional co-operation is adopted also between the Central and the lower administrative layers. In these cases, municipalities receive central government resources, as previously stated by the national Parliament[82].

Innovative/alternative financing mechanisms

Central administration eGovernment projects rely on the budgets of traditional ministries and agencies. Only in 1999 fiscal year the national Parliament approved a 37 M€ "future funds" incentive. Such funds were aimed at the provision of national "eEnablers", such as the Citizens Portal and the Electronic Forms Service[83]. In recent years, the Information Society Council has suggested to enforce the co-ordination role of the Ministry of Finance through additional ad-hoc funds[84].

Private sector economically participates to the realisation of eGovernment projects quite solely through outsourcing agreements: outsourcing contracts are signed mainly in the eServices provision operational field, while user support and helpdesk services are internally both financed and managed. Investment sharing instruments such as Public/Private Partnerships are less adopted[85].

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[81] eGEP phone interview to Mr Seppo Kurkkinen, Ministry of Finance, September 2005.

[82] *Ibid.*

[83] Organisation for Economic Co-operation and Development (OECD) (2003), *eGovernment in Finland,* cited.

[84] See the "Coordination and Development of Online Services" Chapter in Information Society Council (2001), *Public Services in the New Millennium – Programme of Action to Promote Online Government*, Information Society Council, Helsinki, available at http://egov.alentejodigital.pt/Finlandia/PublicServices.pdf, accessed September 2005.

[85] eGEP phone interview to Mr Seppo Kurkkinen, Ministry of Finance, September 2005.

France

Financing trends

Despite the lack of an official budget for national eGovernment projects, the overall ICT expenditure of the French Government has been the object of a constant monitoring activity. The most recent report, known as *Rapport Arthuis*, underlines a growing trend for ICT expenditure by the several French Ministries, even if the total value of such funds is considered insufficient for the relevance and the complexity of the public administration[86].

In particular, the overall ICT investment of the French government in 2003 was of 2.496 bln €, i.e., about the 0,9% of the total government budget. From a more punctual analysis, it emerged that the great part of such expenditure was used for hardware and software acquisition, maintenance and updating, while only a minimum proportion was used for personnel[87].

Financing Mechanisms

Central Government

Financing resources for eGovernment implementation at national level come essentially from general budget allocations, that is prepared by the Ministry of Finance. Other funds are managed by the Ministries responsible for the implementation of sectional projects, as each Ministry or department has the responsibility of carrying out falling into their field of competences. Moreover, considering that some initiatives cross over the boundaries of a single Ministry's or department's competence, many administrative bodies have to cooperate in order to reach the goals stated by the strategy, also creating shared funds, the so-called *Fonds mutualisés*[88].

The 140 measures and projects composing the ADELE strategy have a total budget of about 1.8 M€, allocated for the entire 2004-2007 period[89]. In addiction, the ADAE, the national eGovernment agency, created in 2003 for preparing the French strategy and implementing joint projects and common infrastructure, has at its disposal an amount of 57 M€, which is, however, a marginal financing source[90].

Other Administrative Layers

French territory is divided in 22 regions, 96 counties (*départments*), and more than 36,500 municipalities, the great part of which have less than 5,000 inhabitants. Despite a tradition of centralised State, France is going through a decentralisation process, devolving some powers to local administration.

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[86] See Athuis J., (July 2004), *Rapport d'Information fait au nom de la Commission des Finances, du control budgétaire et des comtes économiques de la Nation sur l'Informatisation de l'Etat*, available at http://www.senat.fr/rap/r03-422/r03-4221.pdf, accessed September 2005

[87] See Athuis J., (July 2004), *Rapport d'Information fait au nom de la Commission des Finances, du control budgétaire et des comtes économiques de la Nation sur l'Informatisation de l'Etat,* ibid.

[88] eGEP phone interview with Christophe Lebeau, Finance Department, ADAE, September 2005

[89] Prime Minister Office, (2002), *ADELE 2004-2007 Dossier de Presse*, available at http://www.internet.gouv.fr/article.php3?id_article=1644, accessed September 2005

[90] eGEP phone interview with Christophe Lebeau, Finance Department, ADAE, September 2005

The implementation of local eGovernment strategies is part of such decentralisation process. By this way, each region and each county is responsible for the designing and implementation of its own strategy, in compliance with national guidelines.

In order to enhance the implementation of such eGovernment local initiatives, regions, counties, and municipalities have formed associations, which help local bodies to exchange experiences, good practices and solutions[91].

Financing sources for local initiatives derive in great from regional, county and municipal budget, which add to national budget transfers. In some cases, the implementation of local projects is supported by regional agencies for ICT, which comprehends both public and private sectors partners[92].

Alternative/Innovative financing mechanisms

An important funding source for both national and local eGovernment initiatives is represented by the *Caisse des Dépôts et Consignations[93]*, a state-owned financial institution which executes public-interest missions on behalf of France central, regional and local government. This institution supports eGovernment projects by providing infrastructural aid (for example, for the interchange of electronic documents), or even Service Public Local (a content syndication service).

The use of Public-Private Partnerships in France constitutes a growing financial resource, since the Ordinance 2004-559 of June, the 17th, 2004, set up a legal framework for their development and paved the way for their adoption by French government bodies. Such contract framework are being used for the financing of large scale IT-projects and eGovernment initiatives.

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[91] See *Association des Maires de France* (Association of French Mayors, http://www.amf.asso.fr/, accessed September 2005), *Assemblée des Dépertements de France,* (Association of French Departments, http://www.departement.org/jsp/index.jsp, accessed September 2005), *Association des Régions de France* (Association of French Regions, http://www.arf.asso.fr/, accessed September 2005)

[92] See, for example, http://www.artesi.artesi-idf.com/public/artesi/, accessed September 2005

[93] See http://www.caissedesdepots.fr/, accessed September 2005

Germany

Financing trends

eGovernment projects funding landscape has gradually but constantly changed during the last years. Both central government and the lower administrative layers, in fact, tend to open themselves to co-operation operative agreements with the private sector, thus trying to gain funding sources alternative to the internal cash flow transferring procedure[94].

Moreover, the Federal Government is currently trying to coordinate the eGovernment efforts of the different administrative layers through the "Deutschland-Online" Initiative[95], aimed at optimising financial efforts made by municipalities, regional entities (Länder) and municipalities towards the provision of eServices.

Financing Mechanisms

Central Government

Central eGovernment initiatives have been so far managed under the "Bund-Online 2005" Umbrella, the Federal programme for the realisation of eServices[96]. Bund-Online projects were financed by the annual budget of the involved Ministries, with the Ministry of the Interior[97] acting as supervisor. Ministry of the Interior's supervision also encompassed the financial breakdown of funds among the Ministries taking part to cross-cutting projects[98].

The objectives of the Bund-Online initiative were met at August, 2005[99]: all 379 government services than were planned to be put on the Internet are now online, mainly thanks to the massive direct investments made by the Central Government (about 1,2 M€ in four fiscal years)[100]. In recent times, however, both external[101] and internal (due to the Federal

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[94] The November 2004 published "Öffentlicher versus privater Sektor: Einstellungen zu externen IT-Dienstleistungen" survey highlighted the minor attitude of both the public and the private sector to outsource their IT-Services, if compared with the European Union average rates. Source: Donath, A. (2004) *Deutschland: Weniger Outsourcing als im europäischen Schnitt*, in *Golem.de – IT News für Profis*, 9.12.2005, available at http://www.golem.de/0412/35085.html, accessed September 2005.

[95] Website homepage: http://www.deutschland-online.de/, accessed September 2005.

[96] Website homepage: http://www.wmsbundonline.de/, accessed September 2005.

[97] Website homepage: http://www.bmi.bund.de/, accessed September 2005

[98] Additional information is available on Ministry of the Interior (2003), *Bund-Online – 3. Umsetzungsplan fuer die eGovernment-Initiative*, Ministry of the Interior, Berlin, available at http://www.bund.de/nn_6958/Microsites/BundOnline-2005/Download/Download-seite-3-anl,templateId=raw,property=publicationFile.pdf, accessed September 2005.

[99] Ministry of the Interior Press Office (2005), *eGovernment-Initiative des Bundes am Ziel*, Ministry of the Interior, Berlin, available at http://www.bmi.bund.de/nn_122052/Internet/Content/Nachrichten/Pressemitteilungen/2005/08/BundOnline1.html, accessed September 2005.

[100] Harling, G., *Public-Private Partnership: Hintergrundwissen*, Ministry of the Interior, Berlin, available at http://www.wms.bundonline.bund.de/cln_007/lang_de/nn_1304/Content/99__shareddocs/Publikationen/PPP/ppp__02__hintergrundwissen,templateId=raw,property=publicationFile.pdf/ppp_02_hintergrundwissen.pdf, accessed September 2005.

[101] IDABC eGovernment News Staff (2003), *German industry wants more eGovernment*, eGovernment News, available at http://europa.eu.int/idabc/en/document/889/336, accessed September 2005.

Government budgetary difficulties[102]) pressures have lead to an experimental adoption of the Public-Private Partnership funding instrument, as it will be better explained in the "Alternative/innovative funding mechanisms" paragraph.

Other administrative layers

The Federal German government framework assigns to every administrative layer a high degree of financial autonomy: such principle also applies to eGovernment services, so that Regions and Municipalities are free to manage their public budget in order to finance eGovernment projects.

Cross-cutting projects at Regional and Municipal levels are managed by the Medi@komm-Transfer Initiative, the ad-hoc programme launched by the Federal Ministry of Economics and Labour[103] with the aim of promoting the exchange of Best Practices among the regional and municipal administrations[104]. Such programme, however, does not provide additional funds for the involved local communities, so that, also at lower administrative layers, forms of collaboration with the private sector are becoming more and more frequent.

Innovative/alternative financing mechanisms

Among the German eGovernment initiatives, a particularly remarkable role is being played by "Deutschland-Online", a nation-wide programme aimed at the overall coordination of the eGovernment projects undertaken by the entire German public administration[105]. "Deutschland-Online" is financed by every administrative unit at a voluntary basis, without having a proper budget.

The already cited efforts towards the implementation of Public-Private funding instruments has led so far to the production of a set of studies on the different types of Public-Private Partnership on behalf of the Bund-Online Initiative[106]. Among the most relevant already launched concrete PPP experiences, it is worth to mention the e-NRW project (realisation of a service platform for the region Nordrhein-Westfalien[107]) and the Ruhrpilot project (implementation of a traffic eAdministrator for the metropolitan region Ruhr[108]).

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[102] Harling, G., *Public-Private Partnership: Hintergrundwissen,* cited.

[103] Website homepage: http://www.bmwa.bund.de/, accessed September 2005.

[104] Further information on the initiative is available at http://www.mediakomm-transfer.de/Content/de/Homepage/Homepage__node.html, accessed September 2005.

[105] "The implementation of Deutschland-Online is based on a principle called "some for all", whereby an organisation or a group of public bodies, at federal, regional or local level, is tasked with developing a solution an behalf of all participants". IDABC eGovernment News Staff (2005), *Diverse appraisal for Bund-Online and Deutschland-Online*, eGovernment News, available at http://europa.eu.int/idabc/en/document/4079/336, accessed September 2005

[106] A complete list of these publications is available at http://www.wms.bundonline.bund.de/cln_007/lang_de/nn_1464/SiteGlobals/NavStructure/40__e__government/25__ppp/dokumentliste__node.html__nnn=true, accessed September 2005.

[107] Website homepage: http://www.d-nrw.de, accessed September 2005.

[108] Website homepage: www.ruhrpilot.nrw.de, accessed September 2005.

Greece

Financing trends

The digitalisation of public services in Greece has been seen, from the early beginning of the process, as an economic growth opportunity for the country.[109] The opening to innovative technologies and service provision mechanisms stimulates, in fact, the involvement of private stakeholders in the public sector financial environment. On the other hand, Greece is firmly supporting the European Funding Programmes of the European Union, in order to enhance international competition in sectors both directly and indirectly linked to Information Society issues[110].

As it will be highlighted in the following paragraphs, the Greek government plays a supervision role on the overall eGovernment projects funding procedure by addressing financial flows and by regulating alternative and innovative capital raising initiatives.

Financing Mechanisms

Central Government

The Greek eGovernment financing system lays its basis on the "Operational Programme Information Society 2000-2006" (henceforth OPIS) [111], an horizontal programme, cutting across government departments, which represents a number of complementary interventions for the development of the Information Society in Greece. Central government finances eGovernment initiatives through two different mechanisms:

- ❑ *Direct financing*: the government assigns annual funds to eGovernment. The size of such cash flows are pre-determined by the OPIS framework. Resources are broken down by national ministries: the Ministry of National Economy and the Ministry of Interior, Public Administration and Decentralisation are the main actors of the implementation process.[112]

- ❑ *Indirect financing*: a State-owned company, the *New Economy Development Fund S.A.*[113], has been set up in order to co-finance the formation of venture capital funds which should be invested in innovative businesses at early development stages. The initial capital of the fund was 100.000.000 Drachmas (294.000€), divided into 10.000 shares[114]. The main criteria for getting support by the fund are the trustworthiness and

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[109] See the "Economic Development and Competitiveness" Chapter in Ministry of Economy & Finance - Secretariat for Information Society (1999), *Greece in the Information Society – Strategy and Actions*, Ministry of Economy & Finance, Athens, available at http://en.infosoc.gr/index.php?op=modload&modname=Downloads&action=downloadsview&pageid=242, accessed September 2005.

[110] The leading role of the Greek government in the public ICT sector had been already stated in 1994, as noticeable in Greek Parliament, *Law 2246/1994 - Organization and operation of the sector of telecommunications*, FEK 172/20-10-1994, available at ftp://ftp.cordis.lu/pub/greece/docs/n2246_1994.pdf, accessed September 2005.

[111] General information on the programme: Ministry of Economy and Finance - Secretariat for Information Society, *Operational Programme Information Society – Summary*, Ministry of Economy and Finance, Athens, available at http://en.infosoc.gr/content/downloads/SummaryOPISEn.pdf, accessed September 2005.

[112] *Ibid.*

[113] Company homepage: http://www.taneo.gr/Eng/HomePage_Eng.aspx, accessed September 2005.

[114] Greek Parliament, *Law 2843/2000, Article 28: Establishment of the ''Fund for the Development of New Economy SA - (TANEO SA)*, available at http://trendchart.cordis.lu/reports/documents/PDS_GR_21.doc, accessed September 2005.

the solvency of the venture capital companies and the contribution of the activities to the development of the new economy. Besides this, another ad-hoc fund has been created, i.e. the High Technology Venture Capital Fund[115], with similar objectives to those of the previously mentioned Fund.

Other administrative layers

The institutional framework described for the central government financing mechanism is also adopted at the other administrative layers. The OPIS programme, in fact, deals with the allocation ratio of the Information Society resources, as showed by the following table:

OPIS Programme indicative financing distribution, broken down by Regions

Ref. Number	Region	%
1	Eastern Macedonia and Thrace	7
2	Central Macedonia	14
3	Western Macedonia	5
4	Epirus	5
5	Thessaly	7
6	Ionian Islands	2
7	Western Greece	7
8	Mainland Greece	6
9	Attica	31
10	Peloponnese	6
11	Northern Aegean	2
12	Southern Aegean	3
13	Crete	5
	Total	*100*

Source: Ministry of Economy and Finance - Secretariat for Information Society, Operational Programme: Information Society, Ministry of Economy and Finance, Athens, available at http://en.infosoc.gr/content/downloads/OPISEngedited.pdf, accessed September 2005.

In recent times also Regions have begun to adopt indirect financing mechanisms: the first ad-hoc Venture Capital Fund was established in Crete[116], at the end of 2004, in order to finance the "Centre for Innovative Enterprises of Crete" (SPINCRETE).

Alternative/innovative financing mechanisms

As already mentioned in the previous paragraphs, Greece is deeply involved in the European Union financing system. OPIS, the main driver of the national public services digitalisation, is funded by the European Regional Development Fund (1702 M€) and by the European Social

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[115] Notification note: *Official Journal of the European Community C62/2004*, Vol. 47, available at http://europa.eu.int/eur-lex/lex/JOHtml.do?uri=OJ:C:2004:062:SOM:EN:HTML, accessed September 2005.

[116] New Economy Development Fund (2004), *The first regional Venture Capital Fund is to be established in the island of Crete*, Press Release, available at http://www.taneo.gr/Eng/HighlightAttributes_Eng.aspx?art_id=371&art_type=prel, accessed September 2005.

Fund (436 M€). OPIS itself is part of a broader UE programme, i.e. the national Community Support Framework 2000-2006[117].

Concerning the involvement of private stakeholders, Greece is currently starting to implement outsourcing procedures, mainly based on the so-called Service Level Agreement (SLA)[118]. SLAs can be seen as the reference point of the contractual obligations between the client, i.e. the public body, and the private provider.

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[117] For a framework overview, see European Commission - DG InfoRegio (2000), *Community Support Framework 2000-2006 – Greece*, European Commission, Bruxelles, available at http://europa.eu.int/comm/regional_policy/funds/prord/document/contents_en.pdf, accessed September 2005.

[118] See Qualco Consulting for the Greek Ministry for Economy and Finance (2003), *The Greek Information Society – Guidelines for Information Technology Outsourcing and Service Level Management for the Greek Public Sector: the Complete Project Life Cycle*, Qualco Consulting, Athens, available http://en.infosoc.gr/content/downloads/OutSourcing.pdf, accessed September 2005.

Hungary

Financing trends

After joining the EU, Hungary has seen a change of sources for eGovernment and ICT. In fact, while in 2003 these policies relied primarily on funds provided by the central budget and private capital, as of 2004 Hungary could start and make good use of the available EU funds as well[119].

Government IT in Hungary rests on several pillars. One is the MIC, which embraces the whole system and is responsible for, among other things, the Hungarian Information Society Strategy (HISS). The other pillar is the Electronic Government Centre (EGC), as the body with specific responsibilities for IT matters concerning central public administration[120]. MIC is therefore the principal body managing electronic public administration in Hungary and a government commissioner, that is the head of the EGC, functions under the auspices of the prime Minister's Office and co-ordinates the electronic government policies at central level.

Financing Mechanisms

Central Government

The Hungarian National Information Society Strategy relies on resources from the central budget which are necessary partly to raise and channel private capital and partly to finance tasks which cannot be implemented on a market basis[121]. Each Ministry, independently or in collaboration with other Ministries, organises its own activity regarding information society projects managing its own budgetary funds[122]

Other administrative layers

Given the duality of the organisational structure (as described in the first paragraph), the definition at sectoral level of eGovernment responsibilities and the implementation of such responsibilities are in line with general government interests and are carried out with the supervision and assistance of the EGC and the MIC. Most local authorities still have a long way to go before reaching interactive stages in the eGovernment services they provide. IT investments by Hungarian local authorities are not very high and they also seem to have slowed down recently for recurrent budgetary problems[123].

Alternative/innovative financing mechanisms

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[119] *Hungarian Information Society Strategy, Plan of Action*, Ministry of Informatics and Communications, 2005, accessed September 2005, http://en.ihm.gov.hu/strategy/strategy.html?pagenum=6

[120] *ICA Country Report – Hungary*, Tallin September 2003, http://www.ica-it.org/conf37/docs/Conf37_CountryRep_Hungary.pdf , accessed September 2005.

[121] *Ibid.*

[122] The Ministry of Informatics and Communications (MIC), i.e., and the Ministry of Education (MoE) signed a Memorandum of Understanding on the implementation and financing of joint programmes related to the build-up of the information Society. Under their strategic co-operation the two montries harmonise their development plans and the use of funds in order to enable the implementation of more efficient and more comprehensive IT development programmes. See: http://en.ihm.gov.hu/pressreleases/kozlemeny_20020722.html?query=financing

[123] See http://europa.eu.int/idabc/en/document/4320/5855, accessed September 2005.

As far as alternative resources are concerned, Hungary highly relies on private capital, since it expects market players to realise its National Information Society Strategy[124].

Besides private investments, one of the advantages of the accession to the European Union is that Hungary is to have access to the EU's Structural Funds to finance its developments. To this end, Hungary has drafted its National Development Plan (NDP) in order to be able to use community resources in implementing its Information Society strategy.

Hungary has developed its specific plan for using Structural Funds allocations to support eGovernment and Information Society initiatives[125]. The Hungarian Structural Funds programmes support Information Society development by focussing on enhancing economic competitiveness, also developing local eGovernment, and also by stressing on human resources development.

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[124] See Ministry of Informatics and Communications (2005), *Hungarian National Information Society Strategy*, Ministry of Informatics and Communications, Budapest, http://www.ihm.gov.hu/data/42303/mits_2003_eng.pdf, accessed September 2005

[125] Organisation for Economic Cooperation and Development (OECD) (2003), *eGovernment in Finland – an assessment*, OECD Policy Brief, Paris, available at http://www.oecd.org/dataoecd/20/50/13314420.pdf, accessed September 2005.

Ireland

Financing trends

There is a specific budget in order to achieve the Information Society strategy objective including E-Government issues, i.e. the Information Society Fund[126]. Established in 1999 by the Government in order to enable the prioritisation of objectives set out in the national Information Society Action Plan, the Fund is envisaged primarily as a fast track mechanism to resource public sector initiatives, which advance the Information Society agenda. Priorities are determined in consultation with Government Departments and are set out in or consistent with the Government Action Plans on the Information Society. eGovernment is currently one of the seven strands encompassed in the current Action Plan on the Information Society. The Fund is operated in partnership between the Departments of the Taoiseach and Finance, with an Evaluation Board drawn from both Departments and administration provided by CMOD. The Fund will operate until 2005.

Financing Mechanisms

Central Government

The objectives for the Information Society Fund are agreed together by the Department of the Taoiseach and the department of Finance in consultation with the Government Departments[127]. It is the Department of Finance the one that decides the amount of funding to be provided annually in the fund. Each year the Department of Finance in consultation with all the government Departments provides a Budget Estimates process through which the Government Departments have the opportunity to indicate ongoing and/or future Information Society initiatives fro which they would like to get funding.

Part of the overall amount of the Fund is kept maintained centrally for priority initiatives, which may arise in the course of the year.

Other administrative layers

In addiction to their own budget (?), local governments and/or their agencies can also apply for funding from the Information Society Fund but their application needs to be supported by a relevant Government Department. They also need to meet all the criteria set in the Fund guidelines.

Alternative/innovative financing mechanisms

European funding is available for a wide range of Information Society related projects. Some of the main sources of funding are the 6th Framework Programme (2003-2006), IDA (Interchange of Data between Administrations), and the European Regional Development Fund Innovative Actions[128].

In an eGovernment report launched by the European Society Commission[129] it is clearly stated that national co-operation in eGovernment implementation will have to be enhanced. There will

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[126] See http://www.taoiseach.gov.ie/index.asp?locID=210&docID=-1, accessed September 2005

[127] See *ICA Country Report – Ireland*, (October 2004), ICA 38th Conference, Limassol, Cyprus,available at http://www.ica-it.org/conf38/docs/Conf38_country_reports_ireland.pdf, accessed September 2005

[128] See http://www.taoiseach.gov.ie/index.asp?locID=347&docID=-1 accessed September 2005

[129] See Information Society Commission (2003), *eGovernment – More than an automation of Government services*, Information Society Commission, Dublin, available at http://www.isc.ie/downloads/egovernment.pdf, accessed September 2005

be the need to explore new relationships among government agencies as well as partnerships with the private sector and non-governmental organisations (NGOs).

Italy

Financing trends

The first nationwide eGovernment programme was defined in 2000-2001, and was implemented a year later. The eGovernment Action Plan (2000) foresaw two different phases for the eGovernment activities launch, and therefore also the financial mechanisms follow this course. A more detailed description of such financial mechanisms is provided in the "Other administrative layers" section.

In the 2002 Government recommendations for the development of the Information Society[130], it is felt that more coherent policies on eGovernment funds allocation are needed. In the same document it is stated that the National Audit authority (*Corte dei Conti*) believes that activities and budget should be more connected in order to reach more objectives and to realise them in less time. Resources quantification and allocation through the annual national financial act should follow less bureaucratic paths. For this reason a special fund for the informatics systems development is supposed to be created (*Fondo per lo sviluppo dei sistemi informativi*). In order to ensure the actions taken are completely effective, it seems necessary to establish a eGovernment Fund (*Fondo per l'eGovernment*) allocated by the Ministry of Finance and distributed by the Ministry of Innovation and Technologies, in order to put into practice the Government recommendations and strategic goals. The fund will then be transferred to those Administrations that will make proposals in co-ordination with the Ministry of Innovation and Technologies.

Financing Mechanisms

Central Government

Funds for the Central Administrations are allocated every year by the annual finance bill and the amount is established through a tri-annual plan that is defined on a yearly basis by Central Administrations in collaboration with the National Authority for Public Administration Informatisation (CNIPA).

The 2003 financial bill created a special fund for the less developed areas (*FAS – Fondo per le Aree Sottoutilizzate*) that is differently located by the CIPE among the regions and also centrally located to the Ministry for Innovation and Technologies (MIT). Therefore, part of the funds for centrally managed projects comes also from this source.

Comitato dei Ministri per la Società dell'Informazione (Committee of the Ministries for the Information Society), chaired by the Innovation and Technologies Minister, approves eGovernment projects and allocates relative funds. The role of this Committee is to support the development and the use of information and communication technologies in several sectors and it co-ordinates the actions of the administrations ensuring the definition and realisation of a coherent strategy for the Information Society development and of the connected policies.

Other administrative layers

As mentioned above, the eGovernment Action Plan foresaw two different stages of implementation, with relative sources of financing.

In the first phase, the Innovation and Technologies Department allocated, through an announcement, a fund worth 120 M€ that was be obtained from the selling of UMTS licences

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[130] See, Minister for Innovation and Technologies, (2002), *Linee guida del Governo per lo sviluppo della Società dell'Informazione nella legislatura*, Minister for Innovation and Technologies, Rome, available at http://www.innovazione.gov.it/ita/documenti/socinfo11_06_02.pdf, accessed September 2005

(400 M€)[131] for the co-financing of regional/local eGovernment projects. In order to benefit from the above mentioned funds, Regions, Provinces, and Municipalities have to submit projects, selected through a call for proposals. Approved projects are co-financed up to 50%, and Regional and Local Administrations have to provide the additional resources. In order to promote the development of standard methods, preference is being given to projects proposing universal solutions or methods which can be used also in other contexts. Funds are allocated through calls for bids[132] for which the selection criteria refer, among others, to the number of users possibly interested into the project, the usability of the interface for using the service, the availability of eGovernment services already provided by the bidder, and the communication campaign aiming at spreading the project awareness. The Ministry of Innovation and Technology provides local eGovernment funds that are locally allocated as follows: 33% goes to the Regions; 19% goes to the Provinces; 44% is given to the Municipalities, and 4% to the highland areas[133].

The second phase of the Action Plan implementation aims at spreading the valuable experiences and projects through all Italy in order to improve the already existing eGovernment infrastructures (so that not to invest money on what has already been sponsored though funds) and to share best practices with other local administrations. In this sense we see the tool of the re-use (*riuso*) of eGovernment solutions, widely utilize in this second stage. The projects coming from the re-use are evaluated and eventually (when approved) co-financed by CNIPA (not more than 30% of the overall project value)[134].

This second stage is mainly characterised by the *Accordi di Programma Quadro (APQ),* which are agreements between the Ministry of Economics and Finance, the Ministry of Innovation and Technologies, and the Regions for local eGovernment projects. They are the best tool to negotiate the planning of co-ordinated actions at different levels (local, regional, national, and European). These agreements aim at giving action to territorial economic processes and to implement the main European directives in all the different sectors, eGovernment and Information Society included.

The funds allocated for the APQ come from different sources:

- ❑ National ordinary sources of the Ministry for Innovation and Technologies (MIT), from the selling of UMTS licences, as already mentioned;
- ❑ Regional ordinary sources, allocated to the information society sector with regional laws;
- ❑ Additional national sources, quantified each year in the government annual financial bill (*Legge Finanziaria*) and allocated by the *CIPE Funds[135]* (*Comitato Interministeriale per la Programmazione Economica* - Inter-ministerial Committee for the Economic

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[131] See http://www.innovazione.gov.it/ita/egovernment/entilocali/avviso.shtml, accessed September 2005

[132] See for an example http://www.innovazione.gov.it/ita/normativa/allegati/Avviso_t-government.pdf, accessed September 2005

[133] See De Petra, G., (2003), *L'eGovernment per un federalismo efficiente: una visione condivisa per una realizzazione cooperativa della seconda fase di eGovernment*, Minister for Innovation and Technology, Lazio Region Convention, available at http://www.innovazione.gov.it/ita/egovernment/entilocali/regioni/lazio/convegno/depetra.pdf, accessed September 2005

[134] See http://www.crcitalia.it/riservato/elenco_sezione.aspx?Categoria=796, accessed September 2005

[135] Under the CIPE deliberation n.17/03 some of the funds were allocated for the improvement of the IT sector of the public administrations. See http://www.cipecomitato.it/delibera_17_03/delibera.asp, accessed September 2005

Planning)[136] with the aim to balance the economical and social development levels among all the different regions[137].

Alternative/innovative financing mechanisms

Furthermore, there is an amount of financial resources for eGovernment in the Information Society measures of the structural funds (funds for the regional development –EFRD and ESF-assigned by the European Commission).These funds are mainly, though not exclusively, located in the South Italy Regions. Each Region has the responsibility for managing such funds.

A part from European funds, The Ministry for Innovation and Technologies foresees the chance of contributions coming from private bodies as a way of sponsoring eGovernment projects[138] in order to cover the 50% of the overall project cost not supported by the Government[139].

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[136] See De Petra, G., (December 2003), *L'eGovernment per un federalismo efficiente: una visione condivisa per una realizzazione cooperativa della seconda fase di eGovernment*, ibid.

[137] See Centri Regionali di Competenza per l'eGovernment e la società dell'informazione (CRC), *Terzo Rapporto sull'Innovazione nelle regioni d'Italia 2005*, (June 2005), available at http://db.formez.it/fontinor.nsf/0/89A680F53014F807C12570360044D067/$file/RapportoNazionale2005.pdf, accessed September 2005

[138] Gazzetta Ufficiale N.78 of April, the 3rd, 2002, Presidenza del Consiglio dei Ministri - Dipartimento per l'Innovazione e le Tecnologie, available at http://www.innovazione.gov.it/ita/normativa/allegati/primoavviso.pdf, accessed September 2005

[139] See also Centri Regionali di Competenza per l'eGovernment e la società dell'informazione (CRC), *Terzo Rapporto sull'Innovazione nelle regioni d'Italia 2005*, cited.

Latvia

Financing trends

Latvia has developed its specific plan for using Structural Funds allocations to support eGovernment and Information Society initiatives.[140]

Apart from being granted EU funds, Latvia provides its eGovernment infrastructures and projects with budgets allocated both centrally and locally. The central Government holds a major role for financing eGovernment, also with regard to locally set projects, but the other administrative layers can use their own budgets for their own services priorities.

Financing Mechanisms

Central Government

eGovernment financing at central level is guaranteed by the State Investment Programme which is supplied by the Government when setting the overall budget for eGovernment investment[141]. Each Ministry prepares a certain number of projects, defined on the basis of their priorities, and applies for the above-mentioned way of funding. It is the Cabinet of Ministries, then, that decides about the allocation of funds.

Other administrative layers

Local authorities, on the basis of their priorities as at central level, provide a list of projects to be discussed and approved by a steering committee. This happens especially for large Communities, which are more autonomous in allocating their own eGovernment budget and which can afford local eGovernment projects (although these are co-financed as shown below).

Once these local Communities' projects are accepted, the projects are co-financed as follow:

- ❑ 75% by EU structural funds
- ❑ 12,5% by the State Investment Programme
- ❑ 12,5% by the Community's budget

Alternative/innovative financing mechanisms

A second source of central eGovernment funding comes from the EU structural funds for regional development (European Regional Development Fund – ERDF). For the 2004-2006 scheme 19 projects for all the Ministries have been selected and will be financed in such a way. EU funds are also allocated for the direct implementation of eGovernment projects set by local authorities.

Latvia's Structural Fund programme contains a general measure on Information Society issues which may be used also to support eGovernment projects, such as:

- ❑ developing the conditions for a competitive and socially inclusive use of ICT over Latvia territory and setting the basis for the information Society;
- ❑ developing nationwide information system for public use in the municipal, education, library, archive and museums sectors;

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[140] Organisation for Economic Cooperation and Development (OECD) (2003), *eGovernment in Finland – an assessment*, OECD Policy Brief, Paris, available at http://www.oecd.org/dataoecd/20/50/13314420.pdf, accessed September 2005.

[141] eGEP phone interview to Member States stakeholders, Secretariat of the Special Assignments Minister of electronic government affairs Latvia, September 2005

- ❑ digitalisation of content;
- ❑ creating public Internet Access Points (PIAPs) in libraries, municipalities and educational institutions;
- ❑ guaranteeing high quality broadband networks in peripheral areas

Lithuania

Financing trends

During the last decade, Lithuanian economy has experienced a rapid change. The restructuring process has seen a significant growth of the liberalisation level, an increase in the level of competition and the raise of the private sector. Structural reforms produced an increase of the labour efficiency and a re-orientation of exports towards the Western countries, especially EU Member States.

The fiscal policy was effected by such changes. During the period between 1997 and 1999, fiscal deficit increased constantly, also because of an economic recession. Seeking to achieve fiscal consolidation, the orientation of fiscal policy was changed fundamentally in 2000. At the beginning of 2000, a stand-by arrangement, treated as precautionary, was signed with the IMF, and followed by structural and tax reforms. These measures allowed for strengthening of macroeconomic stability and creating pre-conditions for a steady growth of the economy.

Despite all these changes and difficulties, measures aiming at strengthening the informatisation of the public sector and the use of ICT in all the spheres of society continued to be financed, as they were considered priority for the development of a modern and competitive economy. In particular, the goal of the development of eGovernment applications is clearly stated in the official document *Single Programming Document of Lithuania for the period 2004-2006*[142]*,* within the measures to develop the production sector. Consistently with the relevance of such item, the trends of eGovernment funds are growing.

Financing Mechanisms

Central Government

Lithuanian eGovernment initiatives are in general co-financed by national public funds and EU programmes. As new EU member, in fact, Lithuania accessed pre-accession funds and programmes in the previous years, such as ISPA, PHARE and SAPARD, which played an important role in preparing the accession and the EU structural Funds assistance.

Traditional funding methods (i.e., central government budget allocations to vertical or horizontal projects) constitute a relevant proportion of the overall eGovernment funds, also considering that EU regulations require a strong national participation to financed programmes.

Other administrative layers

The local government of Lithuania is organised on two levels. Districts are the largest local administrative units, and urban settlements and administrative towns constitute the .lower level of self-government.

Local governments develop their own eGovernment initiatives, as well as national programmes. Funds derive from national budget allocations, both also from local resources. Moreover, local authorities can close public-private partnerships, sponsorships with private sector actors, and recurring to other alternative funding mechanisms.

eGovernment projects are carried out also by groups of local bodies, through the Association of Local Authorities in Lithuania (ALAL), a non-profit organisation representing local authorities towards State authorities and government, as well as towards foreign and international

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[142] See Lithuanian Ministry of Finance (2004), *Single Programming Document (SPD) of Lithuanian for the period 2004-2006*, Lithuanian Ministry of Finance, Vilnius, available at http://www.ivpk.lt/en/structural/spd.doc, accessed 2005

organisations[143]. Initiatives promoted under such instruments are often carried out in partnership with private sector enterprises from EU countries, and with analogue associations from other Member States[144].

Alternative/innovative financing mechanisms

As yet mentioned before, a central role in financing eGovernment project is carried out by EU funds. In particular, an important function was played by the PHARE Programme, aiming, among other things, at strengthening public administrations and institutions to function effectively in the European Union.

After the Lithuania accession on May, the 1st, 2004 a vital role in financing eGovernment projects is covered by the European Regional Development Funds (ERDF) and its related programmes.

Innovative fund raising mechanisms, such as public-private partnerships, sponsorships, outsourcing forms are also present, even if at a lesser extent.

The relevance of each funding mechanism is represented in the following table, taken from the Lithuanian SPD for 2004-2006[145]. eGovernment programmes and initiatives are inserted within the Priority 3, focused on productive sector and services development, as eGovernment is intended as a crucial instrument to help Lithuanian citizens and enterprises to acquire knowledge, skills and qualification which would strengthen their competitiveness.

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[143] See http://www.lsa.lt/english/index.html, accessed September 2005

[144] A list of such initiatives is available at http://www.lsa.lt/english/documents/projects2.doc, accessed September 2005

[145] See Lithuanian Ministry of Finance, *Single Programming Document (SPD) of Lithuanian for the period 2004-2006*, cited.

Financing of the Lithuanian Single Programming Document 2004-2006 (Priority Measure 3, thousands €):

PRIORITY 3 Productive sector and service development	Total expenditure	Public Funding							Private Funding
		Total	*Community Support*		*National Public Funding*				
			Total	ERDF	Total	State	Municipality	Other	
2004-2006	405,079	307,878	200,121	200,121	200,121	107,757	0	0	97
2004									
ERDF-related	85,067	64,654	42,025	42,025	42,025	22,629	0	0	20,412
2005									
ERDF-related	137,727	104,678	68,041	68,041	68,041	36,637	0	0	33,048
2006									
ERDF-related	182,286	138,545	68,041	68,041	90,054	48,491	0	0	43,741

Source: Consortium elaboration from Lithuanian Single Programming Document 2004-2006, op. cit.

Luxembourg

Financing trends

Since the launch of the first action plan[146], eGovernment has been considered in Luxembourg a component, even if extremely relevant, of the overall strategy aiming at modernising public administration.

The recently approved new eGovernment national strategy[147] enrols in the same broad context, adding to the focus on the public sector a larger scope on enhancing the Information Society.

Consistently with the relevance attributed to the eGovernment general strategy, the amount of funds allocated to such initiatives is relevant, and registering a growing tendency. The monitoring of the efficiency of such expenditure is in charge to the Court of Audit.

Financing Mechanisms

Central Government

Budget funds are allocated in relation with each of the several projects related to the national strategy. Every project has an institution charged of the direction and coordination of its many phases: i.e., the eLuxembourg Service, Ministries for sectorial projects, local administrations.

As general provision, the expenses related to the starting phase of each initiative are financed by funds allocated to the budget of the State Ministry for the Public Function and Administrative Reform, within which the eLuxembourg Service is located. Further expenditures (as, for example, maintenance and software updating) have to be covered by the budget of the competent Ministry.

For the realisation of the strategic plan 2004-2009, the necessary financial resources have been estimated in about 500 M€, to cover the realisation costs[148].

Other administrative layers

While central Government and Ministries are responsible for the implementation of infrastructural projects on the entire national territory, local administrations are charged of the realisation of initiatives more focused on the promotion of the Information Society and on the eInclusion, which anyway is a component of the national strategy.

The principal initiative on this sense is the realisation so-called "InternetStuffen", a sort of municipal Telecentres. Municipalities are provided with a State co-financing amounting at the

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[146] See the Comité National pour la Societé de l'Information (CNSI – National Committee for Information Society) (2000), *eLuxembourg Action Plan*, available at http://www.eletzebuerg.lu/eLuxembourg/documents_de_base/eLuxembourg_.pdf, CNSI, Luxembourg, accessed September 2005

[147] See Gouvernement du Grand-Duché de Luxembourg (2005), *Comité de coordination pour la modernisation de l'Etat, Plan Directeur de la Gouvernance Electronique*, Gouvernement du Grand-Duché de Luxembourg, Luxembourg, available at http://www.eluxembourg.lu/Focus_content/plan_directeur1/plan_directeur.pdf, accessed September 2005

[148] See Court des Comptes du Grand-Duché de Luxembourg (Court of Audit of the Grand-Duchy of Luxembourg) (2005), *Rapport Spécial – Contrôle du Programme eGovernment*, Court des Comptes du Grand-Duché de Luxembourg, Luxembourg, available at http://www.cour-des-comptes.lu/rapports/rapports_speciaux/eGovernment.pdf, accessed September 2005

30% of the effectuated investment. Such funding, however, has a ceiling fixed at 15 thousands € for each centre[149].

Alternative/innovative financing mechanisms

Alternative funding systems are used at the central level of Government, for example for the realisation of the Public Key Infrastructure (PKI), where an Economic Interest Group has been put in place[150].

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[149] See http://www.eluxembourg.lu/internet/Internetstuffen/financement/, accessed September 2005

[150] See Court des Comptes du Grand-Duché de Luxembourg (Court of Audit of the Grand-Duchy of Luxembourg), *Rapport Spécial – Contrôle du Programme eGovernment*, cited.

Malta

Financing trends

Figures show a steady increase in funding provided by the Government for IT development and maintenance in the Public Service[151]. From 1997 to 2000 7-8 M MTL have been allocated to individual Ministries according to their programmed requirements. The 1999-2001 Information System Strategic Plan (ISSP) envisaged increases to this allocation with the 2001 figure rising to 9.1 M MTL. The ISSP also refers to budgets relative to eGovernment as being contained in individual Ministry programmes and subsequently to be financed out of these.

The Maltese Government feels that, as shown in other countries' experience, the implementation of eGovernment should be centrally piloted by a Programme co-ordinating entity that should cut across departmental boundaries. Individual service-providing Departments will still be responsible for the implementation of on-line delivery of their services but this implementation will be within the wider ambit of the cross-Government initiative. The finances required for eGovernment should be regularly reviewed in light of new requirements and opportunities that arise, and any amount allocated for the implementation of eGovernment should reside with the central co-ordinating entity, which in turn will have the mandate of prioritising initiatives and attending to their financing.

Financing Mechanisms

Central Government

On the basis of Malta eGovernment national strategy, funds for the eGovernment programme, in terms of the set-up costs, is centrally located via the annual Government Budget. The eGovernment programme in this context is supposed to comprise the setting up of the necessary technical infrastructure and architecture and the setting up of the necessary organisational structures that will be required from the implementation and subsequent maintenance. It also includes costs for the development of the front end, the middleware requirements relative to each on-line service, the application development requirements relative to the back office services that go on-line, and the business process reengineering exercises that have to take place. Since it is essential that individual Departments and Government bodies do not go their own way in the on-line implementation of their own services, it is envisaged that any amounts that are budgeted for the implementation of eGovernment should reside centrally. In this picture CIMU has a role of co-ordinator and transfers the required amounts to those ministries implementing eGovernment on the basis of their plans[152].

Other administrative layers

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[151] See CIMU – Central Information Management Unit, (2000), *White Paper on the Vision and Strategy for the Attainment of eGovernment*, CIMU, Valletta, available at http://www.cimu.gov.mt/documents/egovwhite_paper_for_cimu_web_site.pdf, accessed September 2005. The paper establishes the principles and the strategic framework for the development of eGovernment. It also identifies the architecture, integrated services and related business change that need to be implemented in order to realise the eGovernment vision.

[152] *Ibid.*.

In the view of the Local Council Electronic Policy[153], it not the Government's intention to impose eGovernment services on the Local Councils. Government allows therefore local councils to progress at their own pace by adopting a multi-speed strategy proportional to the commitment expressed and demonstrated by the Council to take up eGovernment services for their residents. The sustainability of the system in the region is responsibility of the Local Councils that are encouraged to be creative in financing the relatively minimal expenses involved in delivery electronic services.

Alternative/innovative financing mechanisms

Malta benefits from Community co-financing, like all the newly accessed Member States, with the aim to promote development and structural adjustment.

Malta has developed its specific plan for using Structural Funds allocations to support eGovernment and Information Society initiatives.[154]

Furthermore, Maltese eGovernment Action Plan stresses the need for Public/Private Partnerships, whit the aim of building the eGovernment infrastructure and, at a second stage, delivering eServices.

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[153] See Department of Local Councils – eMalta Commission – Local Councils Association, Ministry for Justice and Local Government, (2002), *Local Council Electronic Policy*, Ministry for Justice and Local Government , Valletta, available at http://www.gov.mt/documents/Local%20Council%20Electronic%20Policy.pdf, accessed September 2005

[154] Organisation for Economic Cooperation and Development (OECD) (2003), *eGovernment in Finland – an assessment*, OECD Policy Brief, Paris, available at http://www.oecd.org/dataoecd/20/50/13314420.pdf, accessed September 2005.

The Netherlands

Financing trends

Current Dutch eGovernment vision and policy is contained in the broader Government's *Modernising Government programme*[155], launched in 2003, and in the national ICT Agenda *Better Performance with ICT*[156], launched in February 2004. The Modernising Government Programme sets out the guidelines for modernising government sector, and eGovernment is seen as a key driver to achieve administrative burden reduction and a more efficient and effective public administration. The main eGovernment elements of the Modernising programme are better detailed in another document, entitled *Towards the Electronic Government*, published in September 2004, that declines the general guidelines in more punctual objectives[157]. Even in the absence of a general eGovernment budget, the several ongoing programmes and initiatives have received state funds.

Financing Mechanisms
Central Government

There is not a central body responsible for the eGovernment implementation. The coordination of such policies is carried out at the eGovernment Ministries consultations level, which involves the Ministries of Government Reform and Kingdom Relations, Economic Affairs, Finance, Social Affairs and Employment.

State Ministries define the building blocks of eGovernment strategy, while the concrete implementation of policy guidelines is attributed to the several public organisations. Even as a consequence of such tasks' attribution, there is not a national general budget for eGovernment. eGovernment dedicated funds for national projects are included in general ICT financing for each Ministry, and, given the high degree of integration, it is extremely difficult to disaggregate the use of financial resources[158].

Other Administrative Layers

Local government in the Netherlands consists of 12 provinces and 483 municipalities. As one of the main objectives of the Dutch eGovernment strategy is the reduction of the administrative burden for citizens and enterprises, the back-office integration and the unification of registers are necessary steps, in compliance with the principle of only one data delivery.

To reach such goal, a strict collaboration among the different levels of public administration is necessary. The implementation of integrated solution all over the national territory is enforced by the presence of two support programmes managed by the Ministry of Government Reform and Kingdom Relations, in collaboration with the Association of Netherlands Municipalities and the provinces. These programmes and institutions reinforce municipalities and provinces in realising their part in eGovernment plan: EGEM (Electronic Municipalities) and e-Provinces (Electronic Provinces). Financial resources for such programmes derive essentially from local

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[155] See Netherlands Cabinet Office, (2003), *Modernising Government,* Netherlands Cabinet Office, the Hague, available at http://www.andereoverheid.nl/andereoverheid/web/, accessed September 2005

[156] See Netherlands Cabinet Office, (2004), *Better Performance with ICT,* Netherlands Cabinet Office, the Hague, available at http://apps.ez.nl/publicaties/pdfs/04TP16.pdf, accessed September 2005

[157] See Netherlands Cabinet Office, (2004), *Towards the Electronic Government,* Netherlands Cabinet Office, the Hague, available at http://apps.ez.nl/publicaties/pdfs/04TP16.pdf, accessed September 2005

[158] eGEP phone interview to John Kootstra, Ministry of the Interior and Kingdom Relations, Public Sector Innovation and Information Policy Department, September 2005

budget funds and organisations' contributions. There are, however, some central government's grants[159].

Alternative/Innovative financing mechanisms

The consideration of the financial efficiency of public sector eGovernment initiatives is particularly attentive, as actual central investments are limited and are intended to encourage development and to facilitate business cases for the necessary investments.

Actual applications are intended to pave the way for collaboration with the private sector. Public-private partnerships are considered extremely important for actual and, furthermore, future eGovernment developments: private sector's role is considered to develop and supply necessary systems, while public sector's responsibility is considered to provide electronic services[160].

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[159] See Netherlands Cabinet Office, (September 2004), *Towards the Electronic Government,* cited.

[160] See Netherlands Cabinet Office, (September 2004), *Towards the Electronic Government,* cited.

Poland

Financing trends

The Polish eGovernment strategy[161] enrols in the broad context of the national Information Society strategy, aiming at modernising and improving the efficiency of public administration and, in general, the competitiveness of the national economy[162]. The role of ICT in achieving this strategic goal is considered extremely relevant, in accordance with the EU Lisbon Strategy.

Despite the relevance of this item, however, the Polish expenditure for eGovernment initiatives has been very low, also because of the budgetary constraints affecting the State funds allocations. Since 2002, however, a substantial increase in the quality and quantity of Information Society policies has been registered. Nevertheless, national plans receive important contributions from the EU programmes[163].

Financing Mechanisms

Central Government

As mentioned, general budget allocations cover a small part of the total amount of funds designated to finance eGovernment programmes and initiatives.

The main body charged of the implementation of Information Society and eGovernment policies, the Ministry of Science and Technology (MRSIT), in 2003 managed a budget of 29.6 M PLN (about 2.6 M€), representing the 0.018% of the total budget expenditure[164].

Other administrative layers

Poland has a three-tier structure of local government, with 16 regions, 315 countries or districts and about 2500 municipalities. The implementation of the national eGovernment strategy is in charge to such local bodies, many of which participate to the *Cities on Internet Association,* created in 1997, to give support to local public administration bodies in their process of transformation and implementation of eGovernment solutions[165].

Local administrations set up the national strategy ambitious goals by managing central government transfers of funds, but also participating to international networks (especially within the boundaries of the European Union), which allow them to share experiences and solutions with other local authorities, as well to have access to EU funds. The Polish Malopolska region, for example, is a member of the PRELUDE Consortium, that regroups nine European

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[161] See the Ministry of Science and Information Technologies (MRSIT), (2004), *eGovernment Action Plan for 2005-2006*, MRSIT, Warsaw, available at http://www.mnii.gov.pl/_gAllery_en/29/55/2955.pdf, accessed September 2005

[162] See Ministy of Science and Information Technology (MRSIT), (2003), *ePoland – The Strategy on the Development of the Information Society in Poland for the years 2004-2006,* MRSIT, Warsaw, available at http://www.mnii.gov.pl/_gAllery_en/28/98/2898.pdf, accessed September 2005

[163] See the Ministry of Science and Information Technologies (MRSIT), (2004), *eGovernment Action Plan for 2005-2006,* cited.

[164] See Piatkowski, M. (2004), *Information Society in Poland, a Prospective Analysis,* Transformation, Integration and Globalisation Economic Research, Warsaw, available at http://www.tiger.edu.pl/onas/piatkowski/Information_Society_in_Poland_A_Prospective_Analysis.pdf, accessed September 2005

[165] For more information see http://www.mwi.pl/index.php?id=55, accessed September 2005

regions, the *ELANIS* and *elan@* European Networks, as well as non-profit associations and private enterprises[166].

Alternative/innovative financing mechanisms

As yet mentioned, a crucial role in financing Polish eGovernment strategy and projects is played by EU programmes and funds. Specific measures are included in Poland's Plan for using the Structural Funds, in addiction to the national eGovernment strategy. Such measures comprehend[167]:

- ❑ National Competitive OP:
  - ✓ Development of a system of entrepreneurs' access to information and public services online, under the 1.5 measure
  - ✓ Single electronic platform to facilitate business-related formalities: i.e., company registrations, tax operations, public procurement, authorisations and fees for land use, concessions and licenses
  - ✓ Support from the ERDF for an amount of 115 M€.
- ❑ Poland's Integrated Regional OP:
  - ✓ Information Society Infrastructure covering secure regional/local broadband networks, eAdministration of the 16 regions, implementation of electronic platforms, Public Internet Access Points (PIAPs), specific measures for rural areas and small towns.
  - ✓ Support from the ERDF for an amount of 93 M€.

Within the context of the Polish State reform, which sees, for example, the privatisation of state-owned companies, alternative funds raising systems are available for public administrations, both at central and local levels, such as forms of Public-private Partnerships or the participation to Consortia[168].

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[166] See   http://www.prelude-portal.org/modules.php?name=Content&pa=showpage&pid=1,   accessed September 2005

[167] See a) Ministry of Science and Information Technologies (MRSIT), (September 2004), *eGovernment Action Plan*, cited, and b) European Commission, DG Information Society and Media, (March 2004), *Community Support for eGovernment projects in Acceding countries. Seminar 22 March 2004,* European   Commission,   Bruxelles,   available   at http://europa.eu.int/information_society/activities/egovernment_research/doc/accession_country/acce ding_final_report.pdf, accessed September 2005

[168] See Ministry of Science and Information Technologies (MRSIT), (September 2004), *eGovernment Action Plan*, cited.

Portugal

Financing trends

The Portuguese eGovernment projects financing system relies on a close co-operation among public and private sector, with a strong commitment of the Central Government as funds manager and programme supervisor.

Intermediate administrative layers and municipalities participate to the financial efforts made by the Central Government through the national Information Society Operational Programme, while the involvement of Industry partners is also fostered for the most relevant, sector-cutting projects: Portuguese National Citizens Portal[169], for instance, was realised in partnership with two leader companies in the IT and in the consultancy sector.[170]

Financing Mechanisms

Central Government

Ligar Portugal, the recently published action programme for the Portuguese Information and Knowledge Society[171], is one of the main drivers of the Information Society development in the Iberian nation. Such action programme is part of a broader initiative, the National Technological Plan, which has been launched by the new country government appointed in February 2005. The action programme is basically aimed at reducing distances between public bodies and citizenship: such objective will be reached both by enhancing the infrastructural national dotation and by promoting among the citizens the governmental eGovernment action[172].

The above cited document only provides political guidelines and strategic objectives, whose concrete realisation is submitted to the national Operational Programme for the Knowledge Society (*Programa Operacional Sociedade de Conhecimento*, henceforth POS_C). Approved by the European Union at the end of 2004,[173] the programme indicates eight different priority axes, such as, e.g., the Public Administration Modernisation (Axis No. 3) or the Development of Specialised Competencies (Axis No.1). The programme also indicates the financing source of every priority action, including the rate of EU financing and the annual size of funding, as outlined in the following table:

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[169] Portal homepage: www.portaldocidadao.pt, accessed September 2005.

[170] http://www.microsoft.com/resources/casestudies/CaseStudy.asp?CaseStudyID=16144.

[171] Ministry of Science, Technology and Higher Education (2005), *Ligar Portugal*, Ministry of Science, Technology and Higher Education, Lisbon, available at http://www.ligarportugal.pt/pdf/ligarportugal.pdf, accessed September 2005.

[172] See *ibid.*, chapter 2.4, "Iniciativas nacionais na área da Sociedade de Informação".

[173] : POS_C website homepage, http://www.posc.mctes.pt/?&accao=paginaf&pag=introducao&opm=11, accessed September 2005.

POS_C Financial Framework, 2000-2006

	Total Cost	Public Expenditure	EU Financing	National Expenditure
AXIS 1 - Competences Development	159.825.931	153.448.159	76.330.045	77.118.114
AXIS 2 - Portugal Digital	445.336.655	416.332.568	202.854.838	213.477.730
AXIS 3 - Open State	61.247.130	61.247.130	45.937.345	15.309.785
AXIS 4 - Knowledge Society Access Enhancement	95.017.342	84.652.655	42.757.803	41.894.852
AXIS 5 - eGovernment: Better Services to Citizens and Enterprises	21.687.182	21.687.182	16.265.387	5.421.795
AXIS 6 - Competences Development and Digital Culture	28.444.850	27.854.917	11.900.991	15.953.926
EIXO 7 - Integrated Innovation	35.781.797	31.990.518	15.991.291	15.999.227
AXIS 8 - The Knowledge Society as a supporting instrument to the territorial decentralisation	15.555.555	14.514.526	7.000.001	7.514.525
AXIS 9 - Technical Assistance	14.686.876	14.686.876	7.201.299	7.485.577
TOTAL COSTS	877.583.318	826.414.531	426.239.000	400.175.531

Source: Consortium elaboration from POS_C Organisation and Financing mechanisms, available at http://www.posc.mctes.pt/?&accao=paginaf&pag=orcamento&opm=14, accessed September 2005.

As showed by the above presented table, EU funds covers the 49% of the public expenditure for the POS_C implementation costs: such financing action is carried out through the European Social Fund (ESF) and the European Regional Development Fund (ERDF). In addition to National Expenditure and EU Financing resources, however, about 6% of the national POS_C expenditure is provided by enterprises, as it will be analysed in the "Alternative/innovative financing mechanisms" paragraph.

Other administrative layers

POS_C can also be considered the main operational driver for the development of eGovernment in the lower administrative units. Such governmental bodies are involved, in particular, in two decentralisation measures:

❑ Measure 2.3. "Integrated projects: from Digital Cities to Digital Portugal"[174]: such measure, part of the "Portugal Digital" axis, is aimed at expanding and enriching the inter-institutional governance framework created through the 2003 launched "Digital Cities" experimental project[175];

❑ Measure 8.1. "Digital Regions and Citizens – A Knowledge Society at the service of the territory"[176]: the measure, part of the "Knowledge Society as a supporting instrument to the territorial decentralisation" axis, should lead to the launch of a Regional Portal, providing services for inhabitants and tourists and interacting with the already operating eGovernment national portal.

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[174] See POS_C website, page http://www.posc.mctes.pt/?&opm=0&accao=paginaf&pag=pri4&pa=3, accessed September 2005.

[175] For any clarification on the "Digital Cities" project, please refer to Innovation and Knowledge Mission Unit (Unidade de Missão Inovação e Conhecimento, henceforth UMIC), *Digital Cities and Regions – Operating Guide*, UMIC, Lisbon, available at http://www.infosociety.gov.pt/publications/guia_operacionalizacao.pdf, accessed September 2005).

[176] See POS_C website, page http://www.posc.mctes.pt/?&opm=0&accao=paginaf&pag=pri11&pa=1, accessed September 2005.

Such measures are co-financed by the regional and municipal budget, with a contribution from private investors. Besides a little participation from the central national budget, the projects is also co-funded by European Regional Development Funds, as highlighted by the following table:

Extract from the POS_C Financial Framework

	Total Cost	Total Public Expenditure	Public Expenditure							
			Structural Funds			Public National Resources				
			Total Funds	ERDF	FSE	Total	Central	Regional	Local	Other
Measure 2.3. "Integrated projects: from Digital Cities to Digital Portugal	216.984.953	201.863.731	97.626.410	97.626.410	0	104.237.321	62.494.290	2.684.915	28.650.296	10.407.820
Measure 8.1. "Digital Regions and Citizens – A Knowledge Society at the service of the territory	11.111.111	10.670.082	5.000.001	5.000.001	0	5.670.081	3.345.348	170.103	1.757.724	396.906

Source: Consortium elaboration from POS_C Organisation and Financing mechanisms, available at http://www.posc.mctes.pt/?&accao=paginaf&pag=orcamento&opm=14, accessed September 2005.

Nonetheless, specific funds are provided by the central government for the Autonomous Regions of the Madeira and of the Azores. Such funds are foreseen by ad-hoc action plans and are principally aimed at reducing the geographical isolation of these insular regions[177].

Innovative/alternative financing mechanisms

Concerning financing mechanisms alternative to the direct allocation of the resources, Portugal is currently trying to enhance the participation of the private sector in the realisation of eGovernment projects. The Innovation and Knowledge Mission Unit promotes programmes aimed at the collaboration of institutions and private sector. POSI finances projects that foster technological research for industrial purposes[178].

Furthermore, the Ministry of Education has already promoted initiatives of public-private partnership or sponsorship, mainly developed with school publishers, software and content companies, as in the case of the eSchola eLearning project[179].

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[177] See UMIC (2003), *Uma Nova Dimensão de Oportunidades - Plano de Acção para a Sociedade da Informação*, UMIC, Lisbon, available at http://www.umic.pcm.gov.pt/NR/rdonlyres/B3FDD123-98AF-4F47-A10B-AFBEE46E25E3/138/I_Plano_Accao_SI.pdf, accessed September 2005.

[178] See UMIC (2003), *Intervenção de S. Exa. O Ministro Adjunto do Primeiro Ministro no Government Leaders Forum – Roma*, UMIC, Lisbon, available at http://www.umic.gov.pt/UMIC/Media/Comunicados/discurso_arnaut_roma.htm, accessed September 2005.

[179] Website homepage: www.eschola.com, accessed September 2005.

Slovakia

Financing trends

The overall goals of the eGovernment strategy of the Slovakian Republic are illustrated in the *Strategy and Action Plan for the Development of the Information Society*[180], approved by the Slovak government in January 2004. According to these guidelines, the development of the Information Society is a priority issue in the following years, and the implementation of eGovernment solutions is considered an essential component for increasing the country's competitiveness. As affirmed in the *Competitiveness Strategy for the Slovak Republic until 2010*, the growth of Information Society and eGovernment applications is a crucial component of the Slovak implementation of EU Lisbon Strategy[181].

Despite the problems in implementing the national ambitious strategy, resources allocated to the realisation of planned objectives are relevant, especially in relation with the Slovak Republic general budget amount.

Financing Mechanisms

Central Government

The main responsibility for the realisation of the national eGovernment plan is in charge to the Ministry of Transport, Posts and Telecommunications[182], which responds for the general Strategy implementation and for the support to other government and administrative bodies. The Ministry of Transport, Posts and Telecommunications is joined by the Ministry of Finance[183], that holds the responsibility for the implementation of the national Lisbon Strategy, including its eGovernment aspects.

The principal source of funds for the realisation of eGovernment projects is constituted by general budget allocation. The Slovak Government earmarked 100 M SKK (about 2.6 M€) for the development of Information Society and the Implementation of the Action Plan in 2004, a relevant part of which have been allocated to eGovernment projects[184].

Other Administrative Layers

Slovakian territory is divided into eight regions, comprising 79 districts, subdivided into 139 towns and 2883 municipalities. The ongoing process of administrative reorganisation and decentralisation is managed by the Ministry of the Interior, Section of Public Administration[185], while the coordination of the actions taken by the eight self-governing regions, including in the

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[180] See Ministry for the Economy of the Slovak Republic, (January 2004), *Strategy and Action Plan for the Development of the Information Society,* available (only in Slovak) at http://www.telecom.gov.sk/index/open_file.php?file=infospol/strategia.pdf, accessed September 2005

[181] See Ivan Mikloš, Deputy prime Minister for the Economy in the Slovak Republic, (2004), *Competitiveness Strategy for the Slovak Republic until 2010 – National Lisbon Strategy*, Ministry of Economy, Bratislava, available at http://www.minedu.sk/EI/LSAV/NLS/200502_competititvenes_strategy_for_the_SR_until_2010_en.doc, accessed September 2005

[182] See http://www.telecom.gov.sk/index/index.php?lang=en, accessed September 2005

[183] See http://www.finance.gov.sk/En/Default.aspx, accessed September 2005

[184] See http://www.acten.net/cgi-bin/WebGUI/www/index.pl/brt17_1_f, accessed September 2005

[185] See http://www.civil.gov.sk/, accessed September 2005

field of eGovernment, is attributed to the Government Plenipotentiary for the Decentralisation of Public Administration[186].

The development of local infrastructure is a priority of the Slovak National Development Plan for regions, and eGovernment applications are an explicitly set target[187]. Funds for such projects come essentially from local financial resources, some Central Government transfers, as well as from EU funds.

An important role in financing local eGovernment implementation is played by local administration associations, which promote the diffusion and coordination of informatics activities, cities' websites, common standards etc., as the ZMOS (Association of Towns and Municipalities in Slovakia), and the UMS (Associations of Towns in Slovakia, grouping only the larger cities). Such associations have opportunities to sign partnership or Consortia with non-profit organisations and private enterprises in order to realise their projects.

Alternative/Innovative financing mechanisms

The opportunity to sign forms of partnerships and/or sponsorships contracts among private enterprises and administrative bodies in order to realise eGovernment projects is a concrete funds source both for central and local administrative units, as stressed by some important representatives from both entities[188].

As for many new acceded countries, EU Funds represent an extremely relevant financing source, even for implementing eGovernment strategy. Slovakia's Structural Funds Programme contains many measures on Information Society and eGovernment support in public sector activities:

- ❑ Public Internet Access Points (PIAPs) in public libraries
- ❑ Internet for schools
- ❑ Upgrade of communications for hospitals
- ❑ Development of regional information by Internet

The total amount of EU funds to accomplish this measures is of 13.7 M€[189].

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[186] See   http://www.vlada.gov.sk/decentralizacia/splnomocnenec.php (only Slovak version), accessed September 2005

[187] See Sirák M., Salner A. and Druga P., (2004), *Factors and Impacts in the Information Society, a Prospective Analysis in the Candidate Countries. Report for Slovakia,* Institute for Prospective Technological Studies, European Commission Joint Research Centre, Seville, available at http://fiste.jrc.es/download/EUR21285%20Slovakia%20FINALwithannex.pdf, accessed September 2005

[188] See, for example, interventions at ACTENet Business Roundtable entitled *eGovernment in Slovakia: the Possibilities and Challenges,* held in Bratislava on April, the 22nd, 2004, available at http://www.acten.net/cgi-bin/WebGUI/www/index.pl/brt_report17, accessed September 2005

[189] See European Commission, DG Information Society and Media, (2004), *Community Support for eGovernment projects in Acceding countries. Seminar 22 March 2004,* cited.

Slovenia

Financing trends

Like in the case of many others EU new acceding countries, eGovernment projects are managed in Slovenia mainly at the central administration stage[190]. Recent organisational changes have lead to the constitution of the Public Administration Ministry, which is in charge to coordinate the whole State eGovernment policy by identifying operational priorities and the necessary financial resources. In such institutional framework, other administrative layers play only a secondary role, although the Government Office for Local Self-Government and Regional Policy[191] is entitled, among its action objectives, to play a significant role in assessing local communities' eGovernment needs[192].

In financing national eGovernment projects, a remarkable role is played by the European Union funds, as Slovenia benefits, as EU Objective 1 Region, of a 237,5 M€ funding for the 2004-2006 period[193].

Financing Mechanisms

Central Government

Central eGovernment projects financing framework relies on a set of cross-cutting initiatives, which are jointly managed by all interested Ministries and supervised by the Public Administration Ministry[194]. Such initiatives are designed to lay the foundations for specific projects, whose funding is in charge of single State Ministries. There is no specific budget chapter concerning neither the Information Society as a whole nor eGovernment projects[195].

The latest Information Society-related official strategy document foresees the adoption of alternative one-time financing sources[196], as it will be better explained by the "Alternative/innovative financing mechanisms" paragraph.

Local Government

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[190] Government Centre of the Republic of Slovenia for Informatics (henceforth SIGOV) (2004), *Action Plan eGovernment up to 2004 – Version 1.4*, SIGOV, Ljubljana, available at http://e-uprava.gov.si/eud/e-uprava/en/akcijski_nacrt_e-uprave_do_leta_2004_1_4.pdf, accessed September 2005.

[191] Website homepage: http://www.gov.si/svrp/eng.html, accessed September 2005.

[192] European Commission, IDABC Observatory, *eGovernment Factsheets – Slovenia – Actors*, European Commission, Brussels, available at http://europa.eu.int/idabc/en/document/1300/41, accessed September 2005.

[193] European Commission, DG Regional Policy (latest update: 2005), *Slovenia – Objective 1 Programme, 2004-2006*, European Commission, Brussels, available at http://europa.eu.int/comm/regional_policy/country/prordn/details.cfm?gv_PAY=SI&gv_reg=ALL&gv_PGM=2003SI161DO001&LAN=5, accessed September 2005.

[194] Ministry of Information Society (2003), *Slovenia in the Information Society*, Ministry of Information Society, Ljubljana, available at http://mid.gov.si/mid/mid.nsf/V/KACF73A1447CF53FEC1256DE50042087A/$file/Strategy%20_RSIS_final_20030213.pdf, accessed September 2005.

[195] *Ibid.*

[196] *Ibid.*

The activity of the Government Office for Local Self-Government and Regional Policy is deeply influenced by the 1993 approved Local Self-Government Act[197], the parliamentary Law which grants financial autonomy to local communities. The Local Self-Government Act, amended eight times so far in order better to match European Union's governance requirements, could pave the way for an independent, self-organised and also self-financed eServices development in the Slovenian lower administrative layers[198].

Innovative/alternative funding mechanisms

As already stated in the introductory paragraph, Slovenian eServices funding system is strongly supported by the European Union. The 2004-2006 UE total 237,5 M€ funding, in fact, is aimed to co-finance a 334 M€ programme, whose activity areas also cover the promotion of knowledge, human resources development and employment. The total amount of the financing effort for such priority area, including the Central Government resources, is of 96,9 M€[199].

Besides external resources, which should also include loans from the international financial institutions[200], Slovenian public sector is also trying to involve Industry actors through the revision of its eProcurement legal framework[201].

A further funding source for eGovernment projects, although only for one-time initiatives, should be offered by the selling of State-owned IT and TLC companies or assets[202].

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[197] Government Office for Local Self-Government and Regional Policy (henceforth SRVP), *Local Self-Government in Slovenia*, SRVP, Ljubljana, available at http://www.gov.si/svrp/2lok/pdf/a/2self/local.htm, accessed September 2005.

[198] *Ibid.*

[199] European Commission, DG Regional Policy (latest update: 2005), *Slovenia – Objective 1 Programme, 2004-2006,* cited.

[200] See Ministry of Information Society (2003), *Slovenia in the Information Society*, cited.

[201] SIGOV (2001), *The Strategy of eCommerce in Public Administration of the Republic of Slovenia for the period from 2001 to 2004 (Sept-2004)*, SIGOV, Ljubljana, available at http://e-uprava.gov.si/eud/e-uprava/en/sep2004-daljsa-angleska.pdf, accessed September 2005.

[202] See Ministry of Information Society (2003), *Slovenia in the Information Society*, cited.

Spain

Financing trends

Accounting and budgeting issues have been some of the key topics in implementing eGovernment services from the early steps of the Spanish Information Society. The Ministry of Public Administration's white paper on the improvement of the public service through IT *A New Administration in the Service of the Citizens*, published in February 2000, already stressed the relevance of a purpose budgeting approach in managing the IT projects of the Public Administration. Such principle, which had been already introduced in the Spanish accounting system in 1984, was at that time still to be fully implemented, thus avoiding a clear, results-oriented objectives planning. The White Paper suggested, therefore, some correcting measures, such as the increase of budgetary periods, greater autonomy to the budget managers, a simpler accounting documents formulation and the assessment of results measurement mechanisms. Furthermore, another suggestion was aimed at the adoption of programme budgeting systems for the most relevant IT public projects: as it will be better explained in the following paragraphs, such measure has been widely embraced in the following years.

Besides the general principle of the budget accounting approach, the Spanish eGovernment projects financing system is also based on a strong regional and local autonomy principle: every administrative unit is, in fact, responsible for its eGovernment funding mechanisms. However, such funds come only for a minor part from local taxation, because, despite the opportunity to levy additional taxes on physical objects already taxed from the State, Constitutional Court rulings prohibit double taxation[203].

Financing Mechanisms

Central Government

In recent years the Spanish central administration has significantly invested in Programmes and Action Plans for the Information Society and for eGovernment in particular. The most relevant measures taken can be summarised as follows:

❑ March 2001: Launch of the *Action Plan Info XXI*[204], covering the period 2001-2003, estimated total budget: 5000 M€[205], broken down by projects. Every State Ministry was responsible for a set of projects.

❑ May 2003: Publication of the *Action Plan for Promotion of the Electronic Administration in Spain*,[206] which partially modifies the "funding by ministry-approach" of the Info XXI

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[203] Sentencia Tribunal Constitutional 37/1987, 27th of March 1987 (Source: Congreso de los Deputados, *Synopsis of the Article 38 of the Constitutional Law,* Congreso de los Deputados, Madrid, available at http://www.congreso.es/constitucion/constitucion/indice/sinopsis/sinopsis.jsp?art=38&tipo=2, accessed September 2005); Sentencia Tribunal Constitutional 186/1993, 6th of June 1993 (: Congreso de los Deputados, *Synopsis of the Statute of Extremadura*, Congreso de los Deputados, Madrid, available at http://www.congreso.es/constitucion/estatutos/sinopsis.jsp?com=72, accessed September 2005)

[204] Website homepage: www.infoxxi.es, accessed September 2005.

[205] See Trillo, M. (2003), *The Media in the Classroom – a digital newspaper proposal*, in *Educational Media Proposal*, Volume 40, Numbers 3-4, Routledge, Abingdon, UK, pp. 269-276.

[206] Ministry for the Public Administration (2003), *Plan de choque por el Empulso de la Administración Electrónica in España*, Ministry for the Public Administration, Madrid, available at http://www.csi.map.es/csi/pdf/plan.pdf, accessed September 2005.

Action Plan by creating a public-owned company, *Red.es*, in charge for infrastructural and cross-cutting projects;

❑ July 2003: Unveiling of the *Espana.es* Information Society Action Programme[207], which covers the period 2004-2005 and includes most of the measures launched in the eGovernment Action Plan. The programme was financed by the Central Administration for 1029 M€: 180 M€ were addressed to the *Administration.es* initiative, which is composed by 19 measures directly linked to the provision of eGovernment services.

❑ September 2004: Launch of the *Public Administration Technological Modernisation Plan 2004-2007 - Plan Conecta*[208], the new national Programme for the modernisation of central public administration services. Such Programme substitutes the precedent "Administration.es" initiative and is composed by five macro-projects, broken down by 43 initiatives. The programme is financed by the central administration for 84 M€.

Other administrative layers

Two cross-cutting initiatives have been launched in recent years for regional and local administrative layers:

❑ The *PISTA* initiative[209], launched by the Action Plan Info XXI, is aimed at realising service prototypes for the public sector. PISTA is directed by the national Ministry of Science and Technology and funded for about 21 M€ by all administrative bodies which are interested in the key issues of the initiative. One of PISTA's most recent development has lead to the unveiling of the PISTA-local subproject[210], aimed at the realisation of a software platform for the provision of eServices at intermediate and local administrative layers. The project is co-financed by the Ministry of Science and Technology and the Spanish Federation of Municipalities and Provinces[211] for the development of local eGovernment.

❑ The *Ciudades Digitales*[212] (Digital Cities) project, aimed at the development of the Information Society in the Spanish local communities. The project is managed by the national Ministry for Industry, Tourism and Commerce, while the central financing rate of funding does not exceed the 50% of the overall project cost. A synthetic table of the project financing framework during the period 2004-2007 is provided below:

"Ciudades Digitales" 2004-2007 financing framework

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[207] Ministry for the Public Administration – eAdministration Higher Council Secretary (2003), *España.es – Programa de Actuaciones para el Desarrollo de la Sociedad de la Información Electrónica in España*, Ministry for the Public Administration, Madrid, available at http://www.csi.map.es/csi/pdf/plan.pdf, accessed September 2005.

[208] Mendez, J. G., *El Ministerio de Administraciones Publiques lanza el "Plan Conecta"*, in *Sociedad de la Información*, October 2004, Socinfo, Madrid, pp. 10-13, available at http://www.socinfo.info/contenidos/pdf8/conecta.pdf, accessed September 2005.

[209] Promoción e Identificación de Servicios de Telecomunicaciones Avanzadas (Promotion and Identification of Emerging Services in Advanced Telecommunications). Information on the topic is available at the national Citizens Portal website, http://www.administracion.es/portadas/index.html, at page http://www.administracion.es/portadas/portal_internacional/proyectos/use_of_ict.html#PR3, accessed September 2005.

[210] Website homepage: http://www.pistalocal.com/, accessed September 2005.

[211] Website homepage: http://www.femp.es/, accessed September 2005.

[212] Website homepage: http://www.min.es/ciudades/.

Projects	UE Objective 1 Regions	Ministry for Industry, Culture and Commerce	Autonomous Community/City	Local Administrations	Private Entities	TOTAL
MURCIA	Yes	3.000	2.680	320	6.000	12.000
CASTILLA Y LEON	Yes	2.100	2.100	210		4.410
VALENCIA	Yes	3.000	3.000	180	890	7.070
CEUTA	Yes	1.502	2.852			4.354
MADRID	No	3.600	2.140	2.140	2.128	10.008
CATALUÑA	No	3.600	2.160	1.440	460	7.660
ASTURIAS	Yes	3.000	1.990	1.030	1.280	7.300
CANARIAS	Yes	3.000	2.400	600		6.000
MELILLA	Yes	1.500	1.500			3.000
LA RIOJA	No	2.400	2.156	244	900	5.700
CANTABRIA	No	2.400	2.160	240		4.800
BALEARES	No	2.400	1.200	1.500		5.100
CASTILLA-LA MANCHA	Yes	3.880	3.492	388	5.783	13.543
GALICIA	Yes	2.937	1.027	1.910	326	6.199
ARAGÓN	No	3.000	2.360	900	1.000	7.260
ANDALUCIA	Yes	1.600	800	800	358	3.558
CASTILLA Y LEON (2nd phase)	Yes	1.500	1500	144	180	3.324
TOTAL		**44.419**	**35.517**	**12.046**	**19.305**	**111.286**

Source: Consortium elaboration from the project website.

Innovative/alternative financing mechanisms

The EU co-financing funds are widely adopted in implementing eGovernment projects. The above presented table on the "Ciudades Digitales" programme, for example, shows that the major part of the Autonomous Communities and Cities involved in the projects are so-called "UE Objective 1 Regions". For such Regions the Ministry for Industry, Culture and Commerce funds were co-financed by the European Cohesion Funds for the 50%. In addition to such financing mechanism, Spain also benefits of Regional Development Funds and Social European Funds, both at the central and at the other governmental layers[213].

Concerning the private sector involvement, in the last years the Spanish public administrations have signed important outsourcing and public-private partnership contracts, such as in the case of the national property and company registries digitalisation[214] or the foundation of the corporative Net in the autonomous community of Andalusia[215].

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[213] "For the 2000-2006 programming period, the EU has allocated Spain a total of EUR 43,087 million. In addition to the cities of Ceuta and Melilla, the following regions are eligible for this funding: Galicia, Asturias, Castilla-Léon, Castilla-La Mancha, Extremadura, Valencia, Andalusia, Murcia and the Canary Islands". Committee of the Regions (2004), *Strengthening regional and local democracy in regional and local Europe*, Vol. II, Committee of the Regions Studies, Brussels, available at http://www.cor.eu.int/document/documents/cdr171_2004_vol2_etu_en.pdf, accessed September 2005.

[214] See Colegio de Registradores de España (2005), *El Colegio de Registradores, pionero en Europa en disponer de un archivio digitalisado de todos sus registros - Press Release*, Colegio de Registradores de España, Madrid, available at http://www.registradores.org/principal/notaprensa.jsp?id=86&anyo=2005, accessed September 2005.

[215] Information on the topic are available at Rodriguez Sanchez, J. M. (2005), Junta de Andalucia, proceedings of the conference *10 años de e-Government. Experiencias y Retos* held in Madrid on 1st June, 2005. Source: http://www.socinfo.info/seminarios/java/andalucia.pdf, accessed September 2005.

Sweden

Financing trends

The Swedish model for governance builds on the principle of delegation. The Government determines its policies and sets its priorities. In total there are three levels of the public sector; some 240 central government agencies, 21 regional government authorities (county councils) and 290 local government authorities (municipalities). However, this should not be understood as a hierarchy model, as regional and local government administrations are independent from the Government. Being the Swedish public administration independently managed, the Swedish approach to eGovernment has similarly been characterised by a high degree of decentralisation[216]. This model so far has been mainly responsible for the success Sweden has reached in becoming one of the most developed countries in eGovernment. On the other hand, it will not be cost-effective, and hardly even possible, for an administrative unit itself – whether a central government agency or a municipality – to be responsible for every function required to provide a service.

This model leaves to central authorities to decide how, within what framework and what goals to be set up by the Government and the Riksdag, and how their activity shall be carried out. The results of these activities are reported yearly to the Government.

The Government specifies a year in advance the financial framework that the authority has at its disposal. The principle of delegation and result management together means that the authorities have wide power and liberty to decide by themselves what tools are needed and how the goals and results are to be achieved in a cost effective way. In return the authorities are required to deliver results and to report these to the Government. This report will inter alia set the basis for next year's goals.

The power of deciding themselves on how to achieve the goals and on the tools needed also mean that every authority has to decide on its strategies and investments in ICT. These investments are financed by loans with the Swedish National Debt Office. The decisions shall be based on strategic, tactic and economic grounds that are related to the respective activity, goals, budgetary framework and special conditions. This means that every ministry and authority has the responsibility to achieve the goals for eGovernment with its demands for quality, efficiency and god service for citizens and businesses.

The Swedish model, with delegation and result-management, also means that there is no central budget for ICT-investments and the development of eGovernment.

Although the Swedish approach to eGovernment is characterised by a high level of decentralisation, the need to support and increase co-operation and co-ordination has emerged. This is the 24/7 agency vision, a 24 hour, seven-days-a-week online public service that offers electronic services to citizens from national and local government agencies irrespective of time and geographical location[217]. Although a prioritised development area, there are no financial resources centrally allocated for the fulfilment of the 24/7 agency vision. It must be financed from each agency's assets.

Financing Mechanisms

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[216] See Swedish Agency for Public Management, Department of Electronic Administration, (2005), *ICA Country Report 2005 – Sweden*, Statskontoret, Stockholm, available at http://www.statskontoret.se/upload/Publikationer/2005/2005127.pdf, accessed September 2005

[217] Centre for Digital Government, http://www.centerdigitalgov.com/international/story.php?docid=47059, accessed September 2005.

Central Government

Different ministries, primarily the Ministry of Finance but also the Ministry of Industry, Employment and Communications and the Ministry of Justice, set the principles for public administration. The Swedish Agency for Public Management is responsible for promoting an efficient public administration, and has stated responsibility for promoting eGovernment projects. As stated above, each government agency takes care of the financing of its own eGovernment projects.

Other administrative layers

There is no special investment facility for eGovernment projects, since these are seen as parts of the normal service and administrative development. Each administrative body, and therefore also the local administrative layers, is responsible for its own eGovernment projects, which are financed within the normal budget allocation[218]

Alternative/innovative financing mechanisms

The "Commission for the 24/7 agency" (set up in 2003) will have to propose funding arrangements for helping both central and local authorities to implement the 24/7 agency concept. The presence of representatives from industry and research in the delegation will ensure that co-operation between public and private sectors is exploited to the best in order to develop electronic services[219].

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[218] See Swedish Agency for Public Management, Department of Electronic Administration, (August 2005), *ICA Country Report 2005 – Sweden,* cited.

[219]Speech by Gunnar Lund, Minister for International Economic Affairs and Financial Markets, (October, the 20th, 2004) *Information Society and eGovernment Development in Sweden*, available at http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN019734.pdf,   accessed September 2005

United Kingdom

Financing trends

Among the 25 European Union Member States, the United Kingdom government can be described as one of the pioneering institutions in analysing and managing eGovernment projects financing issues. Besides somehow "traditional" resource recovery mechanisms, i.e. reinvesting funds coming from internal savings[220], central government has pushed from the beginning of the past decade towards a flexible, multi-polar financing system.

The 1992 launched Private Finance Initiative (henceforth PFI), one of a range of policies introduced to increase the involvement of the private sector in the provision of public services,[221] has been widely adopted for large IT public projects, including the new National Insurance System[222].

A similar strong involvement has been promoted concerning local and regional administrations, as highlighted by the latest developments of the Implementing eGovernment (hereinafter IEG)[223] national Programme, i.e. corporate plans which set out how local councils are approaching the task of improving service delivery through eGovernment. As it will be better explained through the subsequent paragraphs, such programme has grown in financial resources and in management tools, thus allowing an effective integration of the central and peripheral service modernisation efforts.

Financing Mechanisms

Central Government

The overall public expenditures are controlled by the HM Treasury's Expenditure Divisions and the UK Government carries out annual Spending Reviews for central government expenditure, which considers funding for eGovernment. Departments and agencies carry out annual Spending Reviews internally and produce high-level plans, budget allocations and performance measures. These plans are the basis of formal agreements with HM Treasury, which are the *Public Service Agreements* (PSAs) for a three year period. The targets and budget allocated

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220 In Forbes, D. (2005), *The Challenge of Funding eGovernment Programmes*, Centre for eGovernment, Edinburgh (available at http://www.centre-for-egovernment.com/funding.html, accessed September 2005), the Author individuates three different resource saving dimensions, i.e. the property dimension, concerning the archive digitalisation made possible by the adoption of eDocuments, the staff dimension, related to the front and back end rationalisation, and the financing dimension, which is connected to the embracement of innovative financing options. A recent application of the properly saving dimension can be identified in the decision, taken by the UK government, to offshore the digitalisation process of the more than 250 million birth, marriage and death certificates from 1837 to the present day, in the framework of the Digitisation of Vital Events (DoVE) project. Source: IDABC eGovernment News Staff (2005), *UK Government offshores digitisation of civil records*, eGovernment News, available at http://europa.eu.int/idabc/en/document/4561/194, accessed September 2005.

221 For further information, please refer to British House of Commons (2001), *Private Finance Initiative*, House of Commons Library Research Paper, London, available at http://www.parliament.uk/commons/lib/research/rp2001/rp01-117.pdf, accessed September 2005.

222 The whole National Insurance web documentation has been transferred on the British central government unique portal, Directgov.co.uk. National Insurance pages are available, therefore, at http://www.direct.gov.uk/MoneyTaxAndBenefits/Taxes/BeginnersGuideToTax/BeginnersGuideToTaxArticles/fs/en?CONTENT_ID=4015904&chk=izW7Qe, accessed September 2005.

223 An introductory overview on the IEG Programme can be recovered at http://www.localegov.gov.uk/en/1/ieg.html, accessed September 2005.

refer to an agreed portfolio of projects. [224] The Spending Review of 2002[225] allocated 6 bln £ over three years to government electronic service delivery, as also stated in the "Government IT projects" report of the Parliamentary Office of Science and Technology[226].

Central funds are especially provided for big *cross cutting projects* (e.g. the national portal Directgov.gov, that was funded through central funding) and eGovernment ad-hoc expenditures are broken down by the following budget items: Implementing Electronic Government statement, Partnerships Stimulation, National projects, Support and capacity and Support for innovation.

The 2004 founded eGovernment Unit, which has taken in charge most of the formerly operating e-Envoy Office objectives and responsibilities, is likely to unveil by the end of 2005 the new government IT strategy[227]: such document should also realign the financing mechanisms systems to the revised strategic goals.

Other administrative layers

Central government works in partnership with local councils through the *Local Government Online Programme* (LGOL). Government has increased the LGOL fund from 350 M£ to 511 M£ as a results of the Spending Review 2002.[228] Such financing programme should end up by fiscal year 2005/2006[229]. The ODPM has also made significant funds available to assist with the implementation of electronic local government[230]

Local authorities decide their business cases and they also get funds. Decentralised eGovernment projects can also be funded by inter-institutional partnerships (through the "Invest to Save Budget" cross Government scheme and through public/private partnerships). All local councils in England have been requested since 2001 to prepare and submit yearly *"Implementing Electronic Government"* (IEG) statements to the Office of the Deputy Prime Minister (ODPM), setting out their vision and plans for electronic service delivery by 2005. The ODPM provides then additional funding to those councils having submitted IEGs that meet the requirements set by the Government.

Funding can be divided into:

- ❑ *Catalytic funding*, i.e. the provision of the resources needed at the initial stage of the project realisation;
- ❑ *Maintenance funding*, subsequent to the first ones, they allow cash funds in order to maintain and improve eServices effectiveness.

[224] Sources: a) eGEP field mission to London (May 9-10 2005); b) Organisation for Economic Co-operation and Development (OECD) (2000), *OECD-PUMA Expert meeting on Management of Large Public Sector IT Projects – United Kingdom*, proceedings of the conference held in Paris (October 26-27, 2000), available at http://www.oecd.org/dataoecd/19/29/1901616.pdf , p. 6, accessed September 2005.

[225] Cabinet Office, Office of the e-Envoy (2002), *UK Online Annual report*, Cabinet Office, London, available at http://archive.cabinetoffice.gov.uk/e-envoy/reports-annrep-2002-pdf/$file/annualreport02.pdf, accessed September 2005 .

[226] Parliamentary Office of Science and Technology (POST) (2003), *Government IT projects*, POST, London, available at http://www.parliament.uk/post/pr200.pdf, accessed September 2005.

[227] http://www.cabinetoffice.gov.uk/e-government/government_it_strategy/, accessed September 2005.

[228] Cabinet Office, Office of the e-Envoy (2002), *UK Online Annual report*, cited.

[229] HM Treasury (2004), *Spending Review 2004 – Press notice A5*, HM Treasury, London, available at http://www.hm-treasury.gov.uk/spending_review/spend_sr04/press/spend_sr04_press17.cfm, accessed September 2005.

[230] Office of the Deputy Prime Minister (ODPM) (2003), *Local eGovernment – Process Evaluation of the Implementation of Electronic Local Government in England*, ODPM, London, available at http://www.odpm.gov.uk/stellent/groups/odpm_localgov/documents/page/odpm_locgov_030286.pdf, accessed September 2005.

Alternative/innovative financing mechanisms

As highlighted in the previous paragraph, United Kingdom IT public projects financing mechanisms rely on an assessed alternative funding tradition, basically inspired by the will of involving private actors in the administrations financing procedures.

At the central government layer, e.g., capital funding are made available through the *Invest to Save Budget*[231], a joint Treasury/Cabinet Office initiative with an aim to create sustainable improvements in the capacity to deliver public services in a more joined up manner. An ad-hoc resource cluster, namely the *Modernisation Fund*, is specifically dedicated to IT projects funding. The initial Modernisation Fund was set up with 2.5 bln£ in July 1998. Subsequent Spending Reviews in 2000 and 2002 allocated a further 2.5 bln£ each to this fund[232].

Widely adopted are also *outsourcing mechanisms*, which play a significant role both at the central and at all the other administrative layers.

Most IT projects are co-financed as follows:

- ❑ *PFI (Private Finance Initiative):* PFI has promoted the procurement of major projects as packages in which the private sector designs, builds, finances and operates projects. In the traditional procurement, instead, the public sector provides all the finance and takes also much of the development risk;

- ❑ *Channel services*: These are intended to provide citizens with the best possible range of access paths or "channels" to government through electronic service delivery, which could be provided by a number of public and private sector organisations working in collaboration. In some cases service delivery will be paid for entirely by the private sector where the incentives exist.

In addiction to these outsourcing financing mechanisms, one of the most widely adopted funding mechanisms is the so-called *PPP (Public/Private Partnership)*: under this arrangement government departments do not specify system configuration or purchase physical assets. Departments specify the services required, and companies and consortia are then invited to specify, fund, and implement the required installations.

Moreover, the *European Union* is providing 37,5 M€ funding to new public-private projects that offer public interest electronic services. Such projects cover also eGovernment services[233].

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[231] See http://www.isb.gov.uk/hmt.isb.application.2/index.asp, accessed September 2005.

[232] A comprehensive overview of CMF's main issues is available at http://www.hm-treasury.gov.uk/Documents/Public_Spending_and_Services/Capital_Modernisation_Fund/pss_cmf_intro.cfm, accessed September 2005.

[233] See http://www.ukauthority.com/egov/spring2004/27.html, accessed September 2005.

4. Expenditure Assessment background work

4.1. Expenditure Assessment Challenges

As we illustrated in the earlier version of this report, the first launch of the *eGEP Expenditure Questionnaire* yielded a low response rate and limited data from those countries that responded. In particular, several countries were able to provide data on public administration ICT expenditure but not on eGovernment.

We all know that public administrations in Europe have been and are investing considerable sums of public money in ICT and in eGovernment, but judging from the little data that some countries are providing, it would seem that, using a very famous quote, 'all that is solid melts into air'[234].

Naturally we are convinced that the data exists 'somewhere out there' but that, in some cases, it is not gathered and published in the form of reliable official statistics as a result of three concomitant and self-reinforcing factors:

1. Organisational capabilities;

2. Conceptual ambiguities;

3. Cyclical nature of eGovernment.

Organisational Capabilities. By this expression we mean a number of organisational and/or institutional peculiarities that explain the low capacity of public administrations across Europe to know how much and in what way they spend. This difficulty, that emerged in the course of field mission to several Member States or was explained in the reply to the questionnaire, is due to several reasons.

First, public administration accounting systems and practices are still lagging behind in terms of coverage and precision in the recording of costs[235]. These problems were confirmed in the course of field missions in other Member States, and had been already recorded by RSO (one of the Consortium member organisations) in carrying out the 2002 Benchmarking Project *International Observatory on IT in Public Administration*, financed by the Italian Government.

Second, even those costs eventually captured by the accounting system, depending on the institutional arrangement, are scattered throughout the public administration system, and no central institution is in charge of gathering and standardizing such data. Sweden, for instance, explained that due to the decentralised governance of eGovernment, the needed data was scattered throughout the hundreds of agencies around which the Swedish model is built and not recorded in any central institution. As a matter of fact, in many Member States, decisions on eGovernment investments and financing mechanisms are not tightly coordinated and centralized, thus both central agency and local authorities have their own budget and methods to classify and calculate expenditure. In the absence, at least, of a centralized survey, such as those run in Italy[236] and Spain[237], it is not surprising that reliable and detailed data is hard to find.

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[234] Karl Marx and Frederick Engels, Manifesto of the Communist Party, 1848.

[235] First, ICT items escape the accounting systems as they are often recorded together with other types of expenditures. Second, when they are recorded they do not possess the necessary precision and granularity to be broken down into their main components (hardware, software, services, etc).

[236] For data on central public administration see CNIPA, *Lo stato dell'informatizzazione nella pubblica amministrazione, Relazione Annuale 2004*, Roma, giugno 2005.

[237] For 2004 data on central public administration see Ministerio de Administraciones Publicas, *REINA: Las Tecnologías de la Información y las Comunicaciones en la Administración del Estado*, Madrid, 2005

Conceptual ambiguities. It is very illustrative that the lack of a robust operational definition delimiting in a clear-cut way what must be considered IT is identified as one of the reasons why the full assessment of IT expenditure is still problematic for the private sector also [238]. This is precisely the case of eGovernment.

In its 2003 Communication on eGovernment, the European Commission reported that:

> In 2002 about €30 billion was spent on the ICT part of public administration (administrative services only, excluding health, defence, education, etc). Of this, an estimated €5 billion, growing rapidly at 15% p.a., was spent on ICT for eGovernment[239]

This figure was based on the data reported by the 2002 edition of EITO (European Information Technology Observatory)[240] which used the following first generation Internet and front-end focused definition of eGovernment: … *the use of Internet Technologies to conduct, enhance and support relations with, and transactions between, different government bodies and citizens, businesses and other government bodies*[241]. Accordingly in EITO 2002 eGovernment Expenditure was operationalised as comprising:

- A. Web and Intranet spending
- B. Online forms
- C. Call Centres ICT
- D. Security systems
- E. CRM applications
- F. e-procurement

Today, however, at least at a level of policy-making, there is growing consensus around more extensive definitions of eGovernment such as the one proposed by the European Commission (*…the use of ICT combined with organisational change and new skills in order to improve public services, democratic processes and public policies. This is what eGovernment is about*[242]) or of the OECD (*The use of information and communication technologies, and particularly the Internet, as a tool to achieve better government*[243]). These extensive definitions, while inspirational from the perspective of policy and a vision for the future, result in problems of operationalisation, especially in terms of distinguishing univocally what is eGovernment expenditure and what is ICT expenditure. These conceptual ambiguities add up to the other difficulties seen earlier and to be discussed later. In this respect it is interesting to comment on the answers received, so far, to the first two questions of the revised questionnaire reported in following two screenshots taken from it.

(http://www.csi.map.es/csi/pg5r10.htm); For 2003 data on local and regional administration see Ministerio de Administraciones Publicas, *IRIA: Las Tecnologías de la Información y las Comunicaciones en las Administraciones Públicas*, Madrid 2004 (http://www.csi.map.es/csi/pg5i30.htm).

[238] See Hintze A. and Andersson K., (September 2001), *The dilemma of quantifying IT expenditures in organisations,* Sweden Statistics, Voorburg Group on Services Statistics, available from http://www.voorburg.scb.se/Paper%20Voorburg%2020010821.pdf, accessed May 2005.

[239] Communication From The Commission To The Council, The European Parliament, The European Economic And Social Committee And The Committee Of The Regions; *The Role of eGovernment for Europe's Future*, COM(2003) 567 final, September 2003, p. 10.

[240] See *European Information Technology Observatory 2002*.

[241] *Ibid.,* p. 288

[242] *The Role of eGovernment for Europe's Future, op. cit*, p. 4.

[243] http://webdomino1.oecd.org/COMNET/PUM/egovproweb.nsf/viewHtml/index/$FILE/e_gov_project.htm

1.1 → In·recent·years·within·public·administrations·eGovernment·has·been·developing· fast·and·the·share·of·eGovernment·Expenditure·over·total·Information·and· Communication·technology·(ICT)·Expenditure·has·been·steadily·growing.·¶

With·regard·to·this·trend·and·in·relation·to·your·country·situation,·please·express· your·level·of·agreement/disagreement·(·on·a·scale·from·1=·strongly·disagree·to· 6=·strongly·agree)·with·the·following·four·statements¶

❑→ Today· eGovernment· Expenditure· represents· up· to· 90%· of· Public· Administration· ICT· Expenditure;¶

[1] [2] [3] [4] [5] [6]

❑→ Today·eGovernment·Expenditure·represents·between·60%·and·80%·of·Public·Administration· ICT·Expenditure;¶

[1] [2] [3] [4] [5] [6]

❑→ Despite· such· growth,· today· eGovernment· Expenditure· represents· no· more· than· 50%· of· Public·Administration·ICT·Expenditure;¶

[1] [2] [3] [4] [5] [6]

❑→ Despite· such· growth,· today· total· Public· Administration· ICT· Expenditure· remains· a· much· larger·category·and·eGovernment·Expenditure·amount·to·no·more·than·between·15–25%·of· it.¶

[1] [2] [3] [4] [5] [6]

1.2 → eGovernment· is· a· contested· concept.· To· what· extent· the· following· definitions· match· (on· a· scale· from· 1=· total· mismatch· to· 6=· perfect· match)· the· way· eGovernment·is·conceived·in·your·country?·¶

❑→ ·eGovernment·is·the·use·of·information·and·communication·technologies·(ICTs)·to·improve· the·activities·of·public·administrations;¶

[1] [2] [3] [4] [5] [6]

❑→ eGovernment·is·the·use·of·Internet·Technologies·to·conduct,·enhance·and·support·relations· with,· and· transactions· between,· different· government· bodies· and· citizens,· businesses· and· other·government·bodies;¶

[1] [2] [3] [4] [5] [6]

❑→ eGovernment· is· the· use· of· information· and· communication· technologies· (ICTs)· to· improve· the·internal·functioning·of·public·administrations·thus·providing··eEurope·20·basic·services· and·other·similar·online·services.¶

[1] [2] [3] [4] [5] [6]

❑→ eGovernment· is· the· use· of· information· and· communication· technology· in· public· administrations· combined· with· organisational· change· and· new· skills· in· order· to· improve· public·services·and·democratic·processes·and·strengthen·support· to·public·policies¶

[1] [2] [3] [4] [5] [6]

All converged in replying that ICT is still a much larger category of expenditure and that eGovernment represents no more than between 15%-25% of it, but somehow, counter-intuitively, also agreed with the more extensive definition of eGovernment. But this is precisely what we expected from proposing these two questions. The large definition rings the policy bell but then ICT remains the main budget item as the boundaries of eGovernment are not well defined. On this issue of conceptual ambiguities, it is worth reporting the answers obtained by market research companies such as Gartner and IDC to our questions concerning their data on eGovernment[244]. DiMaio of Gartner told us that they do not produce data on eGovernment for many reasons, the first of which is that the concept is too controversial and there is no univocal definition they could use to produce and sell data to their client ensuring them that it would mean the same to all of them. Massimiliano Claps of IDC told us that the last report they produced on eGovernment in general was in 2002, and that today, due to the conceptual

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[244] Interview with Gabriella Cattaneo and Massimiliano Claps of IDC (Milan, 15 September 2005); interview with Andrea DiMaio, Gartner Group (Milan, 16 September 2005).

lack of clarity around the concept, they prefer to work on two very well defined segments separately, these are: a) electronic service delivery; b) e-procurement;

Cyclical nature and non consolidated financing. The second reason why Gartner does not estimate eGovernment Expenditure is because, DiMaio argued, it would be difficult to segment expenditure with respect to something like eGovernment the size of which changes considerably every year (and can be defined differently in different countries). They feel much more comfortable with items such as operating systems, middleware, ERP, enterprise content management, etc. Scott Bryan of Kablenet[245], requested to comment the EITO 2002 figures on eGovernment expenditure that Kable contributed to produce, and particularly on the validity of the ratio between eGovernment expenditure and ICT expenditure presented there, replied that it is best to assume that those figures are no longer valid since eGovernment expenditure is cyclical. According to Bryan, when a country first sets up eGovernment provisions, expenditure is high, in subsequent years it decreases substantially and then, after about four years, it increases again as existing systems are renewed. On the contrary, Bryan added, ICT expenditure, having a more established place in government budgets, is a more steady item with inertial effect since departments and agencies will spend up to the last penny earmarked for ICT even in the absence of important and urgent new projects.

Central and Local Administration investments can rely on several financing schemes depending on the specific legislation existing in the various countries, and not only on eGovernment specific funding. Moreover, Member States present a wide spectrum of eGovernment specific funding mechanisms that, however, often overlap with more general funding systems and that ranges from autonomous budget management by central and local administrations to special purpose funds to tendering and selection processes. For example, many eGovernment projects have been implemented through both national specific funds and European funds (from ERDF or Sixth Research Program Funds).

4.2. Estimation Methodology

The operational definitions adopted (the unit of the analysis, the definition of eGovernment expenditure, etc) are reported in the next paragraph, while the challenges encountered in data gathering, were illustrated in the previous paragraph of the present Annex, and in Section 4 of the report, so, for the sake of brevity, they will not be repeated here.

The objective of this methodology is to estimate expenditure data in all the cases in which the figures were not available from the returned questionnaires or from other secondary sources screened. Moreover, even for data received from the questionnaire, the logic of the estimation methodology will help check their reliability.

You are reminded that, for all cases where data is not available, we aim to estimate:

- ❑ Public Administration ICT expenditure broken down into central and regional/local public administration and into its components (software, hardware, services, etc);
- ❑ eGovernment Expenditure broken down into central and regional/local public administration and into its components (software, hardware, services, etc);

The basic logical principle implied in our estimation methodology is the usage of available data on ICT and eGovernment expenditure as a baseline for the estimation of the other required data. Such estimates will be checked against relevant variables, taken from consistent and independent datasets, in order to ensure their reliability and comparability.

The first and most important step was to find a way allowing us to use the qualitative and quantitative information provided by Member States, as well as other reliable and publicly

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[245] Phone Conversation with eGEP project manager (8 August 2005) followed by e-mail explanation on August 15 2005.

available data, to estimate the missing figures comparing similar countries (i.e., avoiding counter-intuitive and not realistic results).

This has been done through a cluster analysis which allowed us to divide the 25 Member States into homogeneous and meaningful groups. The clusterisation of countries was important since, for each cluster, we had at least one country for which the data would be available, and that would be used as the baseline to estimate the data of the other countries in the cluster (if, in the cluster, we had data for more than one country, for instance two, the data for the other countries would be estimated using both the data of both two countries).

So, assuming that ICT expenditure (both in the private and in the public sector) depends, for a considerable part, on a country's wealth (measured by the GDP), we decided to cross two dimensions:

- ❑ GDP per capita (in order to normalise the very different values registered among Member States)
- ❑ IT expenditure per capita (in order to avoid the bias of the high private mobile traffic in some countries[246])

The data necessary to create such clusters was taken from EITO 2005 and the Eurostat portal. A similar simplified clusterisation was present in EITO[247], where, for the 12 member States, the crossing categories chosen were GDP size and the percentage of GDP spent on Public Sector ICT. We opted for this quite simplified solution basically for two reasons: the easy-to-guess parameters chosen and results obtained, and the counter-intuitive results obtained through the use of more sophisticated, multi-variable techniques used earlier (version D.1.1 of the Expenditure Study).

The reliability of such clusters was checked against a series of parameters, referring to technological and structural variables, generally accepted as indicators of each country's fundamental characteristics and as drivers of ICT and eGovernment expenditures. The data was taken mostly from Eurostat Portal[248], with the exception of the number of public servants, whose dataset had been taken from the ILO website[249]. The other selected indicators were the following, also referred to as "Information Society Indicators":

- ❑ Total ICT expenditure as a % of GDP;
- ❑ Persons aged 15-64 in employment;
- ❑ mobile subscriptions (per 100 inhabitants) 2004;
- ❑ % of enterprises (>10 employees) with website/homepage 2004;
- ❑ % of enterprises (>10 employees) using Extranet/Intranet 2004;
- ❑ % of persons employed using computers connected to the Internet in their normal work routine 2004;
- ❑ % of enterprises (>10 employees) with access to internet 2004;
- ❑ Number of main telephone lines.

As in each of the four groups, we had data for at least two countries. We proceeded to estimate the ICT expenditure data for the other countries in the group. First, we calculated the Public Administration expenditure per capita for each of these countries:

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[246] For a more detailed explanation see paragraph 4.2 of the present study.

[247] See *European Information Technology Observatory 2002*, p. 300.

[248] See
http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL
&screen=welcomeref&open=/science/infosoc&language=en&product=EU_MAIN_TREE&root=EU_MAIN_
TREE&scrollto=212

[249] See the website section of International Labour Organisation (ILO) dedicated to Labour statistics in the public sector http://laborsta.ilo.org/.

$$x_i = \frac{PublicAd\min istrationICTExpenditure}{population}$$

We calculated the average value for each group:

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n}x_i$$

Then, we applied this value to the other countries in each group, by multiplying it by the size of the population.

The general average value thus obtained was subsequently adjusted for each of the missing countries through a compound index, constituted by the aggregation of the previously mentioned indicators (Information Society and Public servant statistics).

The estimations were submitted to a reliability check. They were compared with publicly available statistics on Public Administration ICT expenditure: the mentioned Kable report, and other figures from market research companies available from press releases. The results confirmed the reliability of our estimations.

The following step was that of calculating the eGovernment expenditure of the 25 EU Member States. The procedure applied was the same, as well as the clusters identified. The adjustment of the general average value, this time, was made against two indicators, considered more explanatory and more relevant for describing eGovernment expenditure. The two chosen indicators are:

❑ The eGovernment availability index: the number of the 20 basic public services (jointly defined by the European Commission and the Member States) fully available online

❑ The eGovernment sophistication index: the extent to which each of the 20 basic services can be provided electronically.

Their values were taken from the fifth and most recent measurement carried out by CapGemini for the European Commission[250]. We are aware of the limits and restrictions of this measurement, but we considered it as the most universally known and accepted index of eGovernment implementation.

The breakdown of Public Administration ICT and eGovernment expenditure by administrative layer followed the same procedures. However, while for the first element, data provided through the questionnaires was the overwhelming majority of the data required, for the second one (eGovernment expenditure), the estimate figures were the greatest part.

So, in this second case, the calculated figures required a robustness check, in order to test the consistency of the values obtained. We started from the assumption, confirmed by the analysis of ICT expenditure through the different administrative layers, that such distribution is strictly related to the country's administrative asset. In fact, the sharing of investments through central, regional and local administrations is balanced between the three levels, or even more substantial at the regional and local levels, in federal and decentralised countries. On the

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[250] EU Commission, DG Information Society and Media, (March 2005), *Online Availability of Public Services: how is Europe progressing? Report of the Fifth Measurement, October 2004*, prepared by CapGemini, available at http://www.eu.int/information_society/eeurope/2005/doc/all_about/online_availability_public_services_5th_measurement_fv4.PDF

contrary, disbursements tend to be higher (more than 50%) at the central level of administration in countries with a centralised political and administrative asset. So, the parameters chosen for this check were related to the degree of decentralisation of administrative systems in the 25 EU Member States. The information required in order to accomplish this reliability check was taken from the IDABC Fact sheets on eGovernment[251], as well as from an RSO (one of the Consortium members) research on the *Evolution of Constitutional and Administrative Systems in Europe*.

RSO (one of the Consortium member organisations) in carrying out the 2002 Benchmarking Project *International Observatory on IT in Public Administration*, financed by the Italian Authority for Information Technology in Public Administration (now CNIPA)

4.3. 'How-to Guide' for eGEP Questionnaire

This short paper is meant as a support and integration to the revised *eGEP eGovernment Expenditure Questionnaire*, and provides a few clarifying concepts and definitions that should help respondents answer the 9 questions for which the revised eGEP questionnaire now consists.

Public Sector vs. Public Administration

As in the *EITO[252] 2002 Edition*, the eGEP Questionnaire uses the expression "Public Administration ICT Expenditure" to indicate a subset of the more general Information and Communication Technology (ICT) expenditure of the public sector as a whole.

In the eGEP questionnaire therefore "Public Administration ICT Expenditure" includes the expenditure made by:

- ❑ Central (national) level agencies, ministries, departments for their own applications (i.e. the expenses made by the Ministry of Health for a general health portal but not the expenses made by single health units and financed through the ministry)[253];
- ❑ Regional (or state in the cases of countries with a federal form of government) government authorities for their own applications;
- ❑ Local government authorities for their own applications.

It therefore excludes ICT expenditure made by publicly owned enterprises and in the following vertical sub-sectors: a) health; b) education; c) defence; d) public order, security and criminal justice; e) public transportation.

The Challenge of defining eGovernment Expenditure

The main challenge for defining eGovernment Expenditure with precision and in such a way that is clearly distinct from the more general category of Public Administration ICT Expenditure descends directly from the fact that eGovernment is itself a contested concept. Simplifying the vast arrays of definitions of eGovernment, one can find there are two contrasting approaches, one extensive and the other restrictive.

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[251] See http://europa.eu.int/idabc/en/chapter/383

[252] European Information Technology Observatory.

[253] In the same way: a) the investments made by the Ministry of Education for an educational general portal allowing online enrolment in schools (this mean also the back office expenditure necessary to streamline processes and improve databases), but not the expenditure made by the same Ministry to provide schools and universities with computers and Internet connection; b) the investments made by the Ministry of Interior for a general portal allowing online reports to the police (this means also the back office expenditure necessary to streamline processes and improve databases), but not the expenditure made by the same Ministry to digitalise police work. The same line of reasoning would apply to the defence and transport sector.

An example of the extensive approach is provided by the well known scholar Richard Heeks for whom eGovernment is: *the use of information and communication technologies (ICTs) to improve the activities of public sector organisations*[254]. This definition is not very different from that of the European Commission (*…the use of ICT combined with organisational change and new skills in order to improve public services, democratic processes and public policies. This is what eGovernment is about*[255]) or from that of the OECD (*The use of information and communication technologies, and particularly the Internet, as a tool to achieve better government*[256]). In these extensive definitions, eGovernment seems to overlap with the use of ICT in general[257].

On the contrary restrictive definitions limit eGovernment to Internet-enabled applications only, and/or only to front-end interactions between government and outside groups (G2C and G2B) or among government entities (G2G). So the restrictive definitions of eGovernment limit the concept either by including front-end services only (thus excluding back-office applications and horizontal infrastructure projects such as, for instance, eID) or by considering as eGovernment solely Internet enabled applications.

While such more restrictive Internet and front-end driven definitions dominated the early stages of eGovernment development, in more recent years a consensus emerged around more extensive definitions, including the two dimensions of back office applications and re-organisation and of infrastructure horizontal projects. Actually many practitioners today conceive eGovernment as a label for the more extensive concept of ICT supported modernisation of public administration.

Extensive definitions of this kind, such as for instance the one adopted by the EU Commission, present, however, clear difficulties in being operationalised so as to distinguish eGovernment expenditure from ICT expenditure in a clear cut way, not to mention in elaborating a *statistically robust* definition that could be applied to all the 25 EU Member States.

As a matter of fact, in the *EITO 2002 Edition*, where one of the few circulating quantitative estimates of eGovernment expenditure was presented (about €6.6 billion for the EU 15 in 2002, equal to about 22% of Public Administration ICT expenditure) the following restrictive definition of eGovernment was used: … *the use of Internet Technologies to conduct, enhance and support relations with, and transactions between, different government bodies and citizens, businesses and other government bodies*[258]. Accordingly in the EITO 2002, eGovernment Expenditure was operationalised as comprising:

Web and Intranet spending   (20% of total EU 15 eGov Expenditure in 2002);

Online forms   (6.5% of total EU 15 eGov Expenditure in 2002);

Call Centres ICT   (27% of total EU 15 eGov Expenditure in 2002);

Security systems   (20% of total EU 15 eGov Expenditure in 2002);

CRM applications   (20% of total EU 15 eGov Expenditure in 2002);

e-procurement   (6.5% of total EU 15 eGov Expenditure in 2002).

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[254] See http://www.egov4dev.org/egovdefn.htm

[255] Communication From The Commission To The Council, The European Parliament, The European Economic And Social Committee And The Committee Of The Regions; The Role of eGovernment for Europe's Future, COM(2003) 567 final, September 2003, p. 4.

[256] http://webdomino1.oecd.org/COMNET/PUM/egovproweb.nsf/viewHtml/index/$FILE/e_gov_project.htm

[257] As a matter of fact Heeks states that this extensive approach considers eGovernment simply as a new name for something that public administrations had started to do before the term became popular (http://www.egov4dev.org/egovdefn.htm).

[258] *European Information Technology Observatory 2002*, p. 288.

While this approach is more manageable for the purpose of gathering expenditure data, it is unlikely that many practitioners today would subscribe to such a restrictive definition of eGovernment.

Thus, on the one hand, the more extensive definition of the concept better reflects the growing consensus on what eGovernment is about but does not facilitate the elaboration of an operational definition of eGovernment Expenditure as clearly distinct from ICT Expenditure. On the other hand, the more restrictive definition lends itself better to operationalisation in terms of expenditure but does not entirely reflect all the dimensions of eGovernment as it is conceived today (particularly the back-office and the horizontal infrastructure project dimensions).

Given this background, eGEP definition of eGovernment Expenditure is operationalised as to *include all the set up, provision, and maintenance costs incurred to put in place the technological, organisational and training solutions that directly (through front-end solutions) or indirectly (through back office reorganisation, optimisation of supporting databases and workflow applications, horizontal authentication and security infrastructure projects, etc) make the provision of the 20 basic eGovernment services defined by eEurope 2005 possible, thus contributing to the modernisation of public administration[259].*

We are, however, aware that the definition we adopted does not entirely resolve the problems and probably does not match the definitions in use in the various Member States.

Therefore in the eGEP Questionnaire, respondents are first asked to state which definition of eGovernment best reflects the way the concept is conceived in their country and subsequently to provide an estimate of eGovernment Expenditure in accordance with the definition of the concept prevailing in their country.

List of Cost Components

Hardware

This segment includes the following types of hardware for IT/IS purposes:

- ❑ PCs (desktops) and Portable PCs (laptops, notebooks);
- ❑ Servers;
- ❑ Mainframes;
- ❑ Other (peripherals, printers, scanners, fax machines, etc).

Software

- ❑ System Software (Operating systems (OS), such as Windows, Linux, Unix, etc);
- ❑ Application Software (Off-the-shelf and/or customised Applications);

Communication

- ❑ Fixed Voice services;
- ❑ Fixed Data services (connectivity);

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[259] First, this definition is not restrictive as it includes not only Internet-enabled technologies, but all ICT instruments supporting eGovernment services. Second, it includes both the front-end and the back-office dimension, as well as the horizontal dimension of general infrastructure projects such as, for instance, eID. Third, since the 20 basic eGovernment services touch some of the most important aspect of public administration, this definition of eGovernment expenditure can be seen to cover fairly well the investments aimed at modernising it. Fourth, it is neither limited to Internet related costs only (as the one used in EITO 2002) nor is it overstretched to almost coincide with ICT expenditure, of which it is a subset defined in terms of the end results pursued through the investments made. Last and certainly not least, it pertains to a set of services in which all Member States have focused their efforts in recent years and therefore it should be feasible for them to identify the relevant expenditure data.

- Mobile services;
- Datacom and Network Equipment (LANs/WANs hardware, PABX, packet switching and routing equipment, modems, etc)
- End-users communication equipments (telephone sets, mobile telephone sets, etc)

Services

This segment includes all types of external services supplied under a contractual agreement between a customer and a supplier. This category includes the following:

- Hardware and/or Software implementation;
- Hardware and/or Software Operational Support (installation, maintenance, etc.)
- Outsourcing (i.e. business process outsourcing and managed services);
- Consulting;
- Training;
- Other Support services.

In-house specialised ICT employees.

Call Centres

- Supporting ICT;
- Personnel.

4.4. eGEP eGovernment Expenditure Questionnaire

I. ICT vs. eGovernment Expenditure and eGovernment Definition

I.1   In recent years within public administrations eGovernment has been developing fast and the share of eGovernment Expenditure over total Information and Communication technology (ICT) Expenditure has been steadily growing.

With regard to this trend and in relation to your country situation, please express your level of agreement/disagreement (on a scale from 1= strongly disagree to 6= strongly agree) with the following four statements:

❑ Today eGovernment Expenditure represents up to 90% of Public Administration ICT Expenditure;

`1` `2` `3` `4` `5` `6`

❑ Today eGovernment Expenditure represents between 60% and 80% of Public Administration ICT Expenditure;

`1` `2` `3` `4` `5` `6`

❑ Despite such growth, today eGovernment Expenditure represents no more than 50% of Public Administration ICT Expenditure;

`1` `2` `3` `4` `5` `6`

❑ Despite such growth, today total Public Administration ICT Expenditure remains a much larger category and eGovernment Expenditure amount to no more than between 15-25% of it.

`1` `2` `3` `4` `5` `6`

I.2   eGovernment is a contested concept. To what extent the following definitions match (on a scale from 1= total mismatch to 6= perfect match) the way eGovernment is conceived in your country?

❑ eGovernment is the use of information and communication technologies (ICTs) to improve the activities of public administrations;

`1` `2` `3` `4` `5` `6`

❑ eGovernment is the use of Internet Technologies to conduct, enhance and support relations with, and transactions between, different government bodies and citizens, businesses and other government bodies;

`1` `2` `3` `4` `5` `6`

❑ eGovernment is the use of information and communication technologies (ICTs) to improve the internal functioning of public administrations thus providing eEurope 20 basic services and other similar online services.

`1` `2` `3` `4` `5` `6`

❑ eGovernment is the use of information and communication technology in public administrations combined with organisational change and new skills in order to improve public services and democratic processes and strengthen support to public policies

`1` `2` `3` `4` `5` `6`

II. ICT Expenditure Data

II.1 Please enter Public Administration ICT Expenditure in 2004, or your best estimate (please provide first the total in millions of € and then its break down in percentage in terms of different government levels):

2004[260] Million €	OF WHICH[261]		
	Central Government %	**Regional Government %**	**Local Government %**

II.2 Please enter an estimate of the break down of Public Administration ICT Expenditure in 2004 into the following cost components

2004 Million €	OF WHICH				
	Hardware %	Software %	Communication %	Services %	Other %

II.3 Please enter Public Administration Expenditure in 2004 for in house IT employees[262], or your best estimate:

2004[2] Million €	OF WHICH[3]		
	Central Government %	**Regional Government %**	**Local Government %**

III. eGovernment Expenditure Data and Financing Mechanisms

III.1 Please estimate the eGovernment Expenditure in 2004, in accordance with the eGovernment definition used in your country (please provide first the total in millions of € and then its break down in percentage in terms of different government levels)

2004[2] Million €	OF WHICH[263]		
	Central Government %	**Regional Government %**	**Local Government %**

III.2 How is your eGovernment Expenditure in 2004 distributed in terms of cost components? (in percent)

2004 Million €	OF WHICH				
	Hardware %	Software %	Communication %	Services %	Call Centres[264] %

I

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[260] Or the latest available figure (in which case please specify the year)

[261] If data are available only for Central Government please specify it.

[262] We mean public employees employed and working specifically and only for operating information technology applications.

[263] If data are available only for Central Government please specify it.

[264] Including both ICT support and personnel costs.

III.3 Please list below the top five eGovernment initiatives in terms of investment size launched in your country in 2004 or 2003:

	Name	**Announced budget**	**URL and other sources of information**
1			
2			
3			
4			
5			

5. ICT and eGovernment Expenditure Country Fact Sheets

Austria

Structural Indicators

Population (1000 people): 8,140.1

GDP at market price (millions euro): 237,038.6

GDP per capita (PPS; EU25=100): 122.4

Total ICT expenditure (millions euro): .... € 13.983,00

Total ICT expenditure per capita: 1.723,32

Total ICT expenditure on GDP: 5,90%

Public Servants: ....484,200 (Source: ILO; baseline 2003)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 45%

Percentage of enterprises with Internet access: 94%

Percentage of individuals using Internet at least once a week: 46%

Percentage of households with a broadband connection: 16%

Percentage of enterprises with a broadband connection: 55%

Percentage of individuals having purchased/ordered online in the last three months: 13%

Percentage of enterprises having received orders online within the previous year: 12%

Percentage of individuals using the Internet for interacting with public authorities:

Obtaining information: 17.6%

Downloading forms: 13.9%

Returning filled forms: 8.1%

Percentage of enterprises using the Internet for interacting with public authorities:

Obtaining information: 53%

Downloading forms: 68%

Returning filled forms: 47%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): €737.80

Public Administration ICT expenditure per capita: €90.93

Public Administration ICT expenditure on GDP: 0.31%

Public Administration ICT expenditure breakdown by Layer:
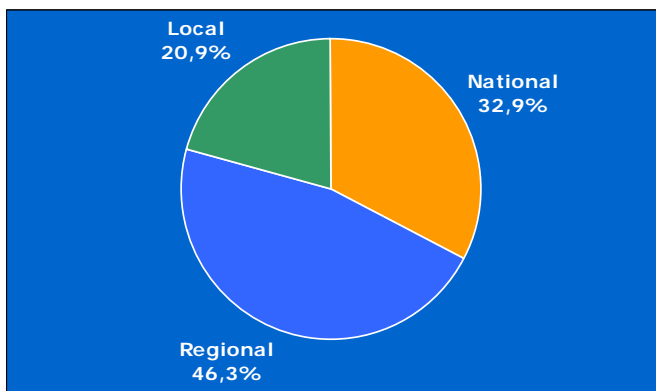
Public Administration ICT expenditure breakdown by Cost:
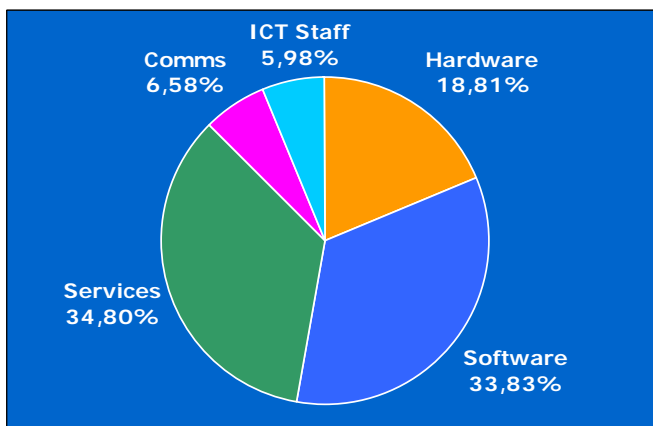
eGovernment expenditure (millions euro): 160.69

eGovernment expenditure per capita: .... € 19.80

eGovernment expenditure on GDP: 0.07%

eGovernment expenditure breakdown by Layer:
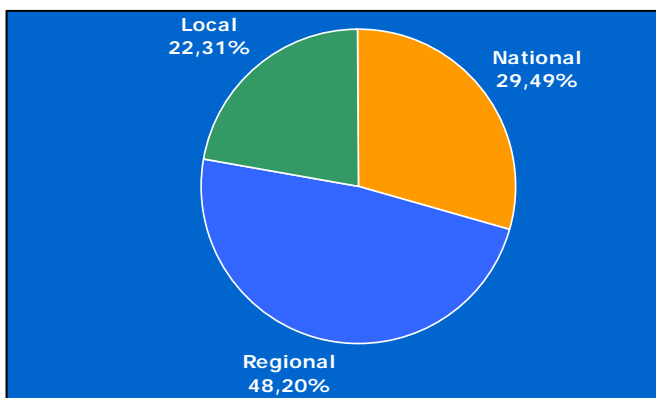
Belgium

Structural Indicators

Population (1000 people): 10,396

GDP at market price (millions euro): 283,752

GDP per capita (PPS; EU25=100): 118.8

Total ICT expenditure (millions euro): 17.664,00

Total ICT expenditure per capita (thousands euro): 1.699,12

Total ICT expenditure on GDP: 6.23%

Public Servants: ....756,400 (Source: ILO; baseline: 2000)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 50% (2005)

Percentage of enterprises with Internet access: 96%

Percentage of individuals using Internet at least once a week: 53% (2005)

Percentage of households with a broadband connection: 41% (2005)

Percentage of enterprises with a broadband connection: 70%

Percentage of individuals having purchased/ordered online in the last three months: 11%

Percentage of enterprises having received orders online within the previous year: 18%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 15.9% (2005)

    Downloading forms: 7.6% (2005)

    Returning filled forms: 4.4% (2005)

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 49%

    Downloading forms: 42%

    Returning filled forms: 26%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure(millions euro): 724.40

Public Administration ICT expenditure per capita: .... € 69.68

Public Administration ICT expenditure on GDP: 0.26%

Public Administration ICT expenditure breakdown by Layer:
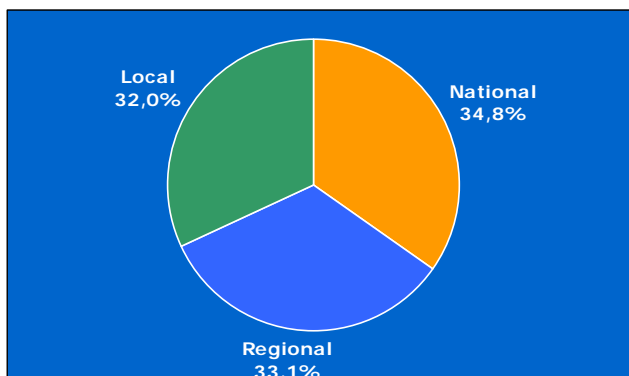
Public Administration ICT expenditure breakdown by Cost:
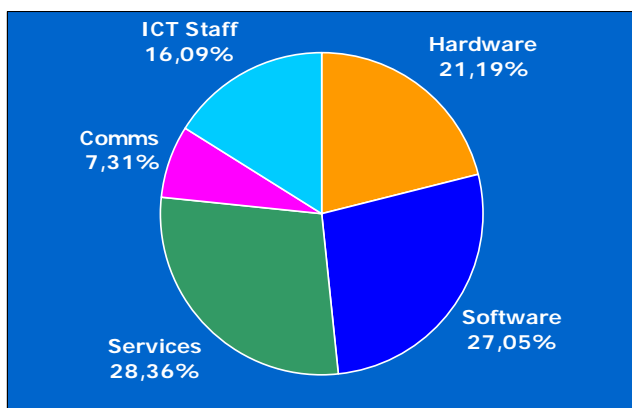
eGovernment expenditure (millions euro): 141.61

eGovernment expenditure per capita: .... € 13.62

eGovernment expenditure on GDP:..0.05%

eGovernment expenditure breakdown by Layer:
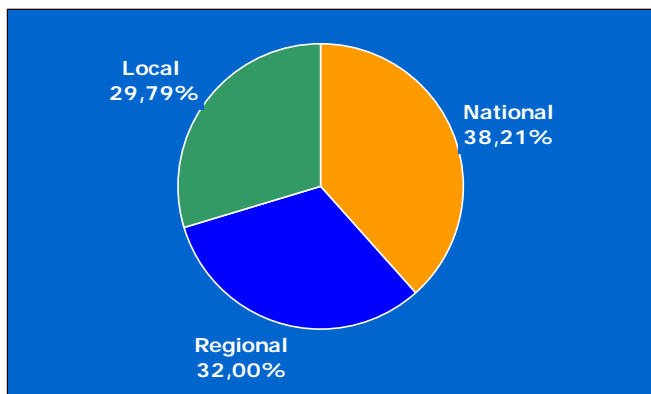
Cyprus

Structural Indicators

Population (1000 people): 703.7

GDP at market price (millions euro): 12,536.6

GDP per capita (PPS; EU25=100): 83.6

Total ICT expenditure (millions euro): .... N.A.

Total ICT expenditure per capita (thousands euro): .... N.A.

Total ICT expenditure on GDP: .... N.A.

Public Servants: .... 51,700 (Source: ILO; baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 53%

Percentage of enterprises with Internet access: 82%

Percentage of individuals using Internet at least once a week: 28%

Percentage of households with a broadband connection: 2%

Percentage of enterprises with a broadband connection: 35%

Percentage of individuals having purchased/ordered online in the last three months: 3%

Percentage of enterprises having received orders online within the previous year: 5%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 10.4%

    Downloading forms: 3.5%

    Returning filled forms: 1.4%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 35%

    Downloading forms: 24%

    Returning filled forms: 11%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 28.10

Public Administration ICT expenditure per capita: .... € 38.46

Public Administration ICT expenditure on GDP: 0.23

Public Administration ICT expenditure breakdown by Layer: ......................................N.A.

Public Administration ICT expenditure breakdown by Cost:
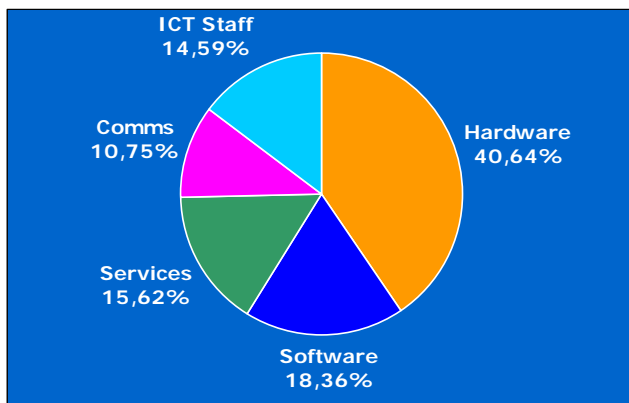
eGovernment expenditure (millions euro): 3.80
eGovernment expenditure per capita: .... € 5.20
eGovernment expenditure on GDP:...0.03%

eGovernment expenditure breakdown by Layer: N.A.

Czech Republic

Structural Indicators

Population (1000 people): 10,211.5

GDP at market price (millions euro): 86,786.8

GDP per capita (PPS; EU25=100): 70.6

Total ICT expenditure (millions euro): 6,133.00

Total ICT expenditure per capita (thousands euro): 600.60

Total ICT expenditure on GDP: 7.11%

Public Servants: ....702,800 (Source: ILO; baseline 2002)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 19%

Percentage of enterprises with Internet access: 20%

Percentage of individuals using Internet at least once a week: 25%

Percentage of households with a broadband connection: 4%

Percentage of enterprises with a broadband connection: 38%

Percentage of individuals having purchased/ordered online in the last three months: 3%

Percentage of enterprises having received orders online within the previous year: 11%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: 3.1%

      Downloading forms: 2.2%

      Returning filled forms: 1.4%

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 68%

      Downloading forms: 55%

      Returning filled forms: 24%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 457.00

Public Administration ICT expenditure per capita (thousands euro): .... € 44.75

Public Administration ICT expenditure on GDP: 0.53%

Public Administration ICT expenditure breakdown by Layer:
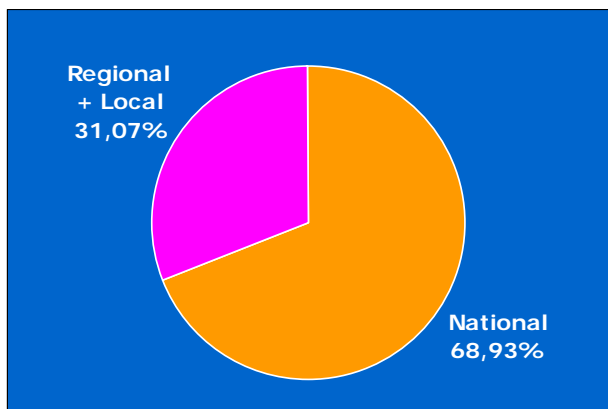
Public Administration ICT expenditure breakdown by Cost:
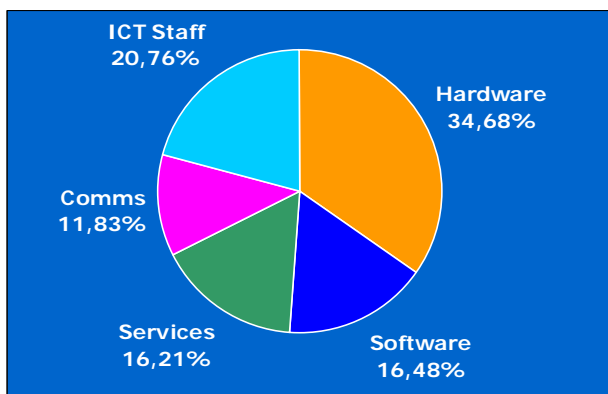
eGovernment expenditure (millions euro): 228.50

eGovernment expenditure per capita .... € 22.38

eGovernment expenditure on GDP:..0.26%

eGovernment expenditure breakdown by Layer:
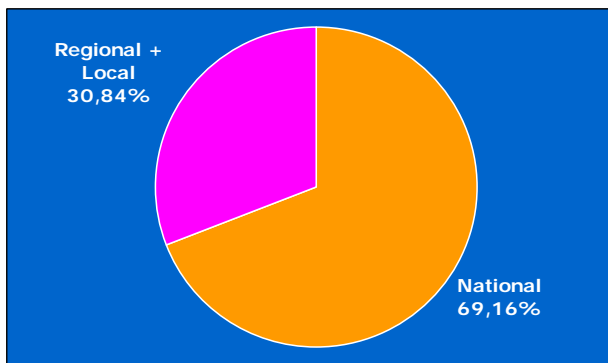
Denmark

Structural Indicators

Population (1000 people): 5,397.6

GDP at market price (millions euro): 196,299.7

GDP per capita (PPS; EU25=100): 121.7

Total ICT expenditure (millions euro): 12,601.00

Total ICT expenditure per capita (thousands euro): 2,334.56

Total ICT expenditure on GDP: 6.48%

Public Servants: 839,200

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 69%

Percentage of enterprises with Internet access: 97%

Percentage of individuals using Internet at least once a week: 70%

Percentage of households with a broadband connection: 36%

Percentage of enterprises with a broadband connection: 80%

Percentage of individuals having purchased/ordered online in the last three months: 22%

Percentage of enterprises having received orders online within the previous year: 25%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 42.5%

    Downloading forms: 16.4%

    Returning filled forms: 13.9%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 62%

    Downloading forms: 54%

    Returning filled forms: 35%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 1,255.44

Public Administration ICT expenditure per capita .... € 232.59

Public Administration ICT expenditure on GDP: 0.65%

Public Administration ICT expenditure breakdown by Layer:
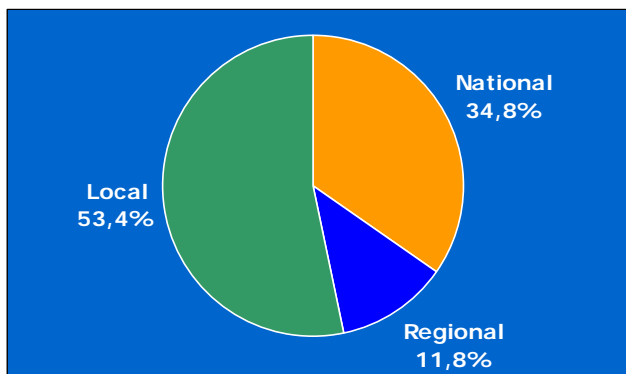
Public Administration ICT expenditure breakdown by Cost:
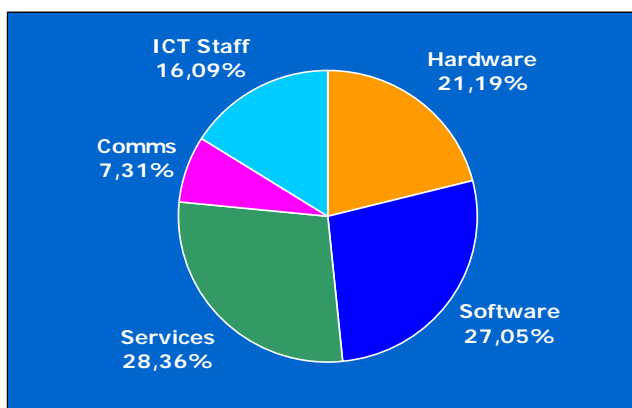
eGovernment expenditure (millions euro): 479.58

eGovernment expenditure per capita: .... € 88.85

eGovernment expenditure on GDP:...0.25%

eGovernment expenditure breakdown by Layer:
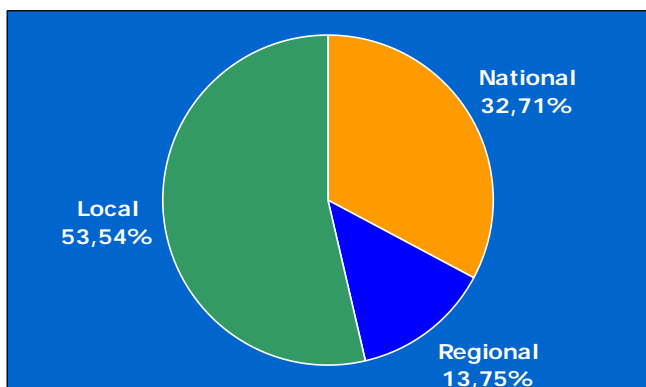
Estonia

Structural Indicators

Population (1000 people): 1,350.6

GDP at market price (millions euro): 9,043.1

GDP per capita (PPS; EU25=100): 51.5

Total ICT expenditure (millions euro): 767.00

Total ICT expenditure per capita (thousands euro): 567.90

Total ICT expenditure on GDP: 8.48%

Public Servants: .... 702,800 (Source: ILO; Baseline: 2002)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 31%

Percentage of enterprises with Internet access: 90%

Percentage of individuals using Internet at least once a week: 45%

Percentage of households with a broadband connection: 20%

Percentage of enterprises with a broadband connection: 68%

Percentage of individuals having purchased/ordered online in the last three months: 4%

Percentage of enterprises having received orders online within the previous year: 8%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 14.2%

    Downloading forms: 14.3%

    Returning filled forms: 13.1%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 78%

    Downloading forms: 73%

    Returning filled forms: 54%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 28.50

Public Administration ICT expenditure per capita: .... € 21.10

Public Administration ICT expenditure on GDP: 0.32%

Public Administration ICT expenditure breakdown by Layer:
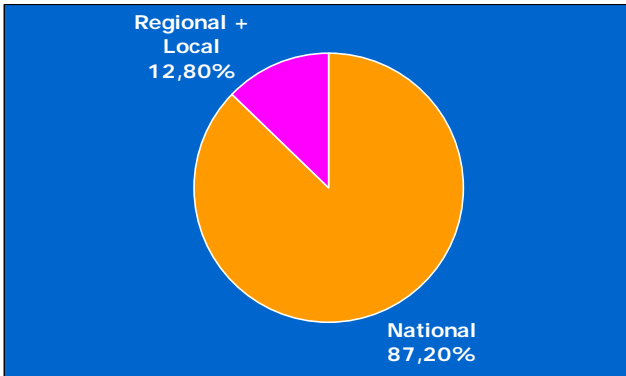
Public Administration ICT expenditure breakdown by Cost:
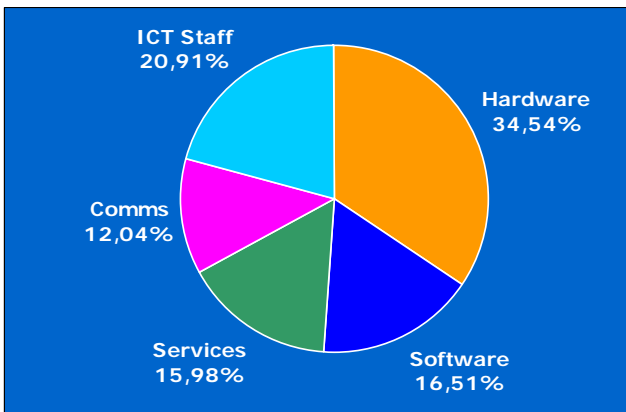
eGovernment expenditure (millions euro): 20.32

eGovernment expenditure per capita .... € 15.05

eGovernment expenditure on GDP: 0.22%

eGovernment expenditure breakdown by Layer:
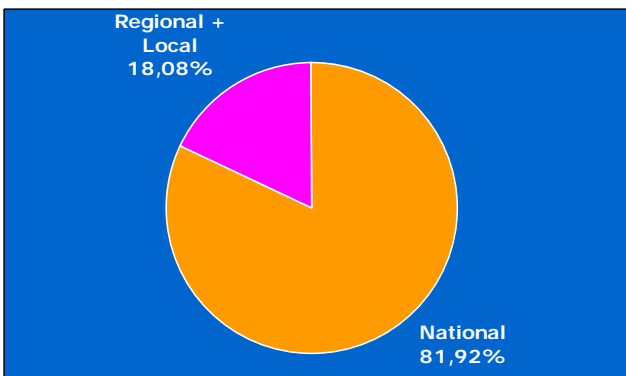
Finland

Structural Indicators

Population (1000 people): 5,219.7

GDP at market price (millions euro): 149.725

GDP per capita (PPS; EU25=100): 112.8

Total ICT expenditure (millions euro): .... € 9,543.00

Total ICT expenditure per capita (thousands euro): 1,828.27

Total ICT expenditure on GDP: 6.37%

Public Servants: .... 702,800 (Source: ILO; Baseline: 2002)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 51%

Percentage of enterprises with Internet access: 97%

Percentage of individuals using Internet at least once a week: 63%

Percentage of households with a broadband connection: 21%

Percentage of enterprises with a broadband connection: 71%

Percentage of individuals having purchased/ordered online in the last three months: 24%

Percentage of enterprises having received orders online within the previous year: 17%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 43.3%

    Downloading forms: 13.2%

    Returning filled forms: 9.9%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 88%

    Downloading forms: 84%

    Returning filled forms: 61%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 983.36

Public Administration ICT expenditure per capita: .... € 188.39

Public Administration ICT expenditure on GDP: 0.66%

Public Administration ICT expenditure breakdown by Layer:
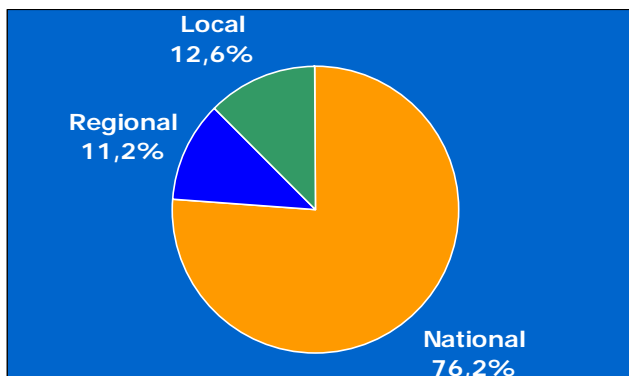
Public Administration ICT expenditure breakdown by Cost:
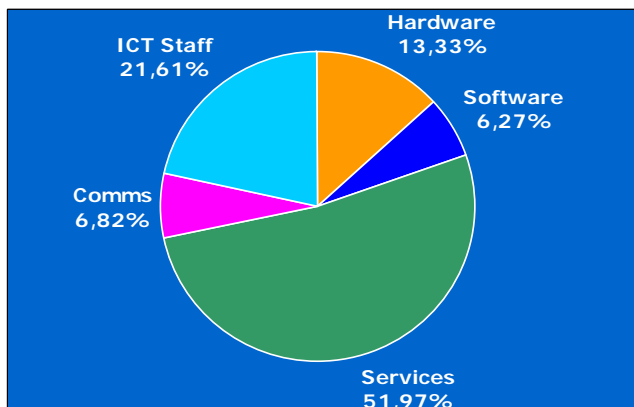
eGovernment expenditure (millions euro): 389.02

eGovernment expenditure per capita .... € 74.53

eGovernment expenditure on GDP:..0.26%

eGovernment expenditure breakdown by Layer:
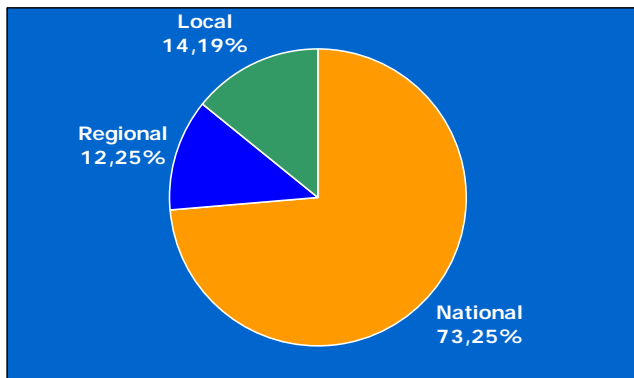
France

Structural Indicators

Population (1000 people): 59,900.7

GDP at market price (millions euro): 1,648,368.7

GDP per capita (PPS; EU25=100): 109.8

Total ICT expenditure (millions euro): 90.653,00

Total ICT expenditure per capita (thousands euro): 1.513,39

Total ICT expenditure on GDP: 5.50%

Public Servants: ....4,819,300 (Source: ILO; Baseline: 1997)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 34%

Percentage of enterprises with Internet access: 83%

Percentage of individuals using Internet at least once a week: .... N.A.

Percentage of households with a broadband connection: .... N.A.

Percentage of enterprises with a broadband connection: 49%

Percentage of individuals having purchased/ordered online in the last three months: .... N.A.

Percentage of enterprises having received orders online within the previous year: .... N.A.

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: .... N.A.

      Downloading forms: .... N.A.

      Returning filled forms: .... N.A.

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: .... N.A.

      Downloading forms: .... N.A.

      Returning filled forms: .... N.A.

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 5,175.90

Public Administration ICT expenditure per capita: .... € 86.41

Public Administration ICT expenditure on GDP: 0.31%

Public Administration ICT expenditure breakdown by Layer:
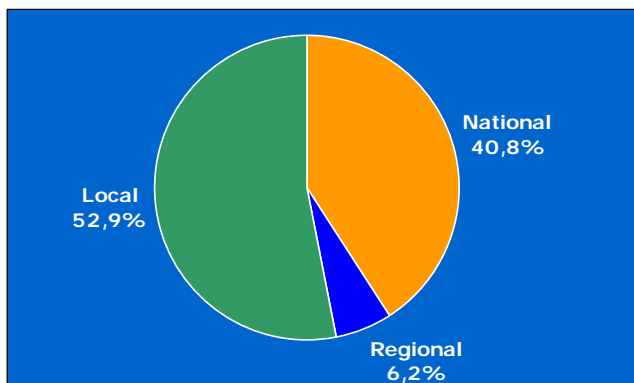
Public Administration ICT expenditure breakdown by Cost:
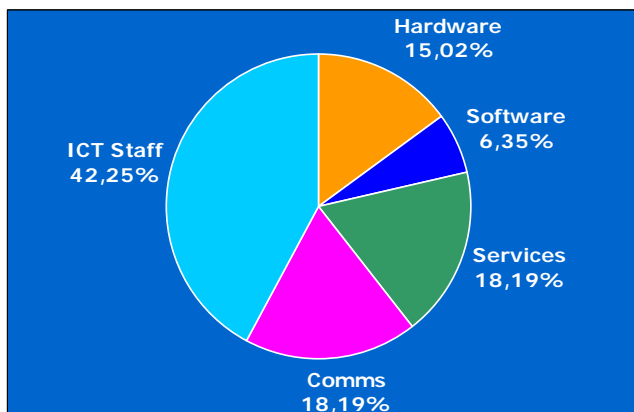
eGovernment expenditure (millions euro): 1,895.65

eGovernment expenditure per capita: .... € 31.65

eGovernment expenditure on GDP: 0.12%

eGovernment expenditure breakdown by Layer:
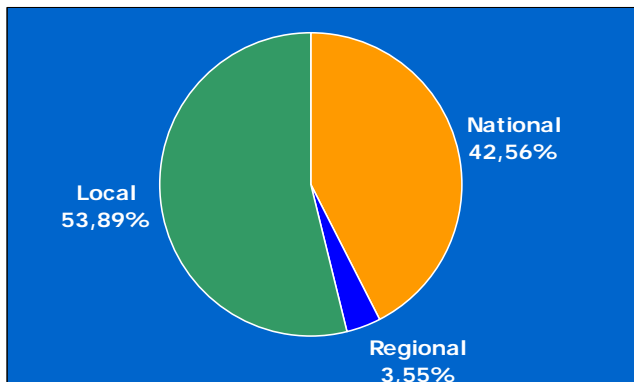
Germany

Structural Indicators

Population (1000 people): 82,538.6

GDP at market price (millions euro): 2,215,560

GDP per capita (PPS; EU25=100): 109.1

Total ICT expenditure (millions euro): 128,345.00

Total ICT expenditure per capita (thousands euro): 1,554.97

Total ICT expenditure on GDP: 5.81%

Public Servants: .... 4,249.000 (Source ILO; Baseline: 2003)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 60%

Percentage of enterprises with Internet access: 94%

Percentage of individuals using Internet at least once a week: 50%

Percentage of households with a broadband connection: 18%

Percentage of enterprises with a broadband connection: 54%

Percentage of individuals having purchased/ordered online in the last three months: 29%

Percentage of enterprises having received orders online within the previous year: 18%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 31.3%

    Downloading forms: 13.6%

    Returning filled forms: 6.9%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 34%

    Downloading forms: 28%

    Returning filled forms: 17%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 5,964.50

Public Administration ICT expenditure per capita: .... € 72.26

Public Administration ICT expenditure on GDP: 0.27%

Public Administration ICT expenditure breakdown by Layer:
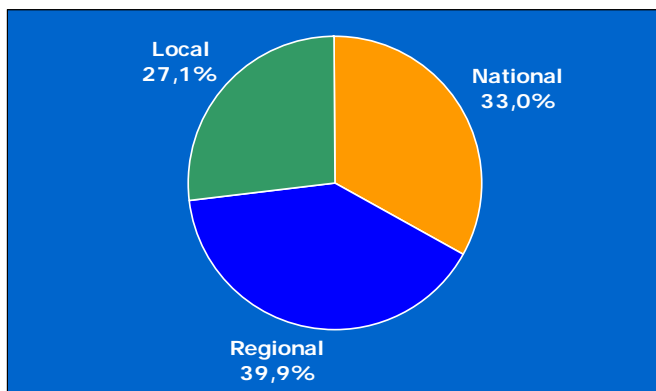
Public Administration ICT expenditure breakdown by Cost:
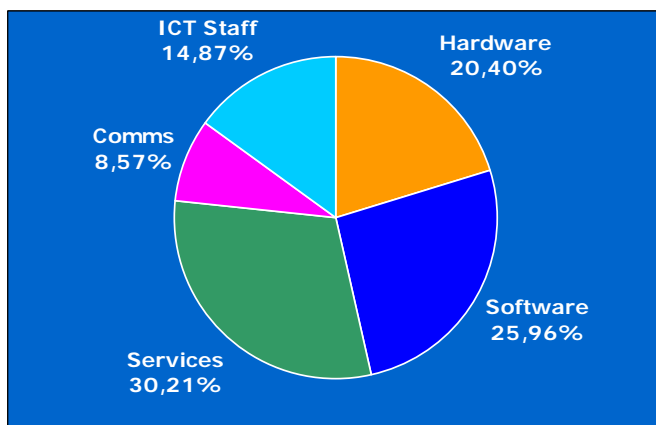
eGovernment expenditure (millions euro): 2,065.51

eGovernment expenditure per capita: .... € 25.02

eGovernment expenditure on GDP: 0.09%

eGovernment expenditure breakdown by Layer:
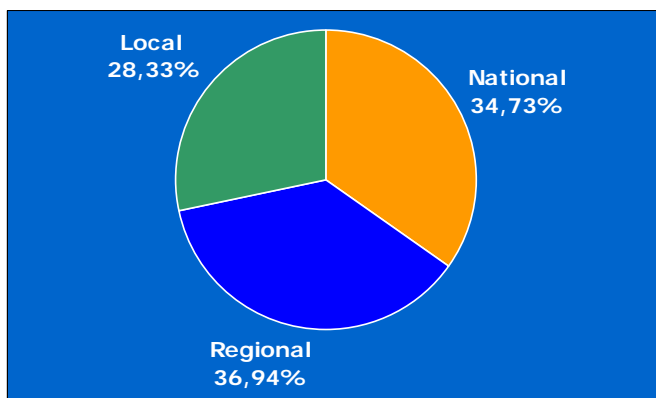
Greece

Structural Indicators

Population (1000 people): 11,041.1

GDP at market price (millions euro): 167,169.2

GDP per capita (PPS; EU25=100): 81.8

Total ICT expenditure (millions euro): 7.762,00

Total ICT expenditure per capita (thousands euro):..703,01

Total ICT expenditure on GDP:.. 4,70%

Public Servants:.. 841,700 (Source: ILO; Baseline: 2000)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 17%

Percentage of enterprises with Internet access: 87%

Percentage of individuals using Internet at least once a week: 17%

Percentage of households with a broadband connection: .... 0% (1% in 2005)

Percentage of enterprises with a broadband connection: 21%

Percentage of individuals having purchased/ordered online in the last three months: 1%

Percentage of enterprises having received orders online within the previous year: 6%

Percentage of individuals using the Internet for interacting with public authorities:

  Obtaining information: 7.2%

  Downloading forms: 2.8%

  Returning filled forms: 2.4%

Percentage of enterprises using the Internet for interacting with public authorities:

  Obtaining information: 61%

  Downloading forms: 58%

  Returning filled forms: 45%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro):.. 295.88

Public Administration ICT expenditure per capita: .... € 26.80

Public Administration ICT expenditure on GDP:...0.18%

Public Administration ICT expenditure breakdown by Layer:
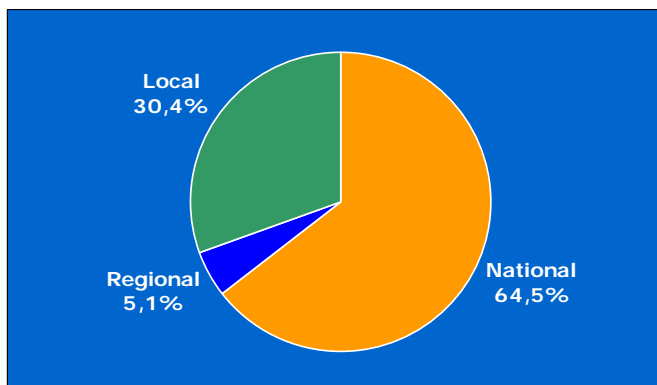
Public Administration ICT expenditure breakdown by Cost:
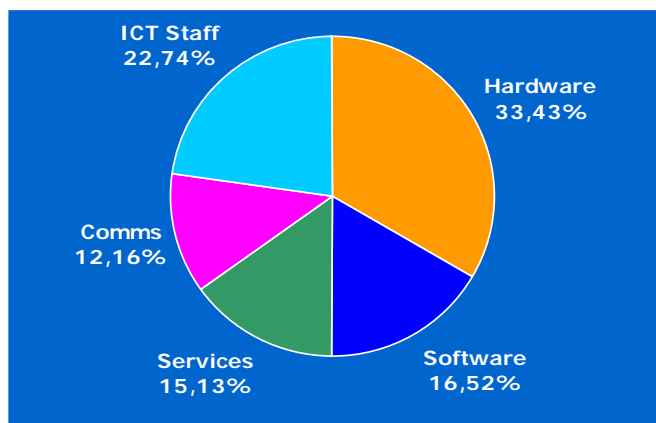
eGovernment expenditure (millions euro): 71.22
eGovernment expenditure per capita: .... € 6.45
eGovernment expenditure on GDP:..0.04%

eGovernment expenditure breakdown by Layer:
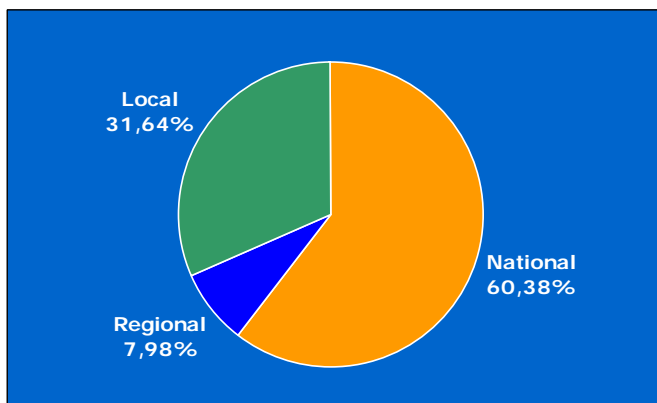
Hungary

Structural Indicators

Population (1000 people): 10,116.7

GDP at market price (millions euro): 81,115.3

GDP per capita (PPS; EU25=100): 60.4

Total ICT expenditure (millions euro): 5,716.00

Total ICT expenditure per capita (thousands euro): 565.01

Total ICT expenditure on GDP: 7.07%

Public Servants: .... 872,100 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 14%

Percentage of enterprises with Internet access: 78%

Percentage of individuals using Internet at least once a week: 21%

Percentage of households with a broadband connection: 6%

Percentage of enterprises with a broadband connection: .... N.A. (48% in 2005)

Percentage of individuals having purchased/ordered online in the last three months: 2%

Percentage of enterprises having received orders online within the previous year: 6%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 14.9%

    Downloading forms: 6.9%

    Returning filled forms: 4%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 34%

    Downloading forms: 31%

    Returning filled forms: 23%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 441.39

Public Administration ICT expenditure per capita: .... € 43.63

Public Administration ICT expenditure on GDP: 0.55%

Public Administration ICT expenditure breakdown by Layer:
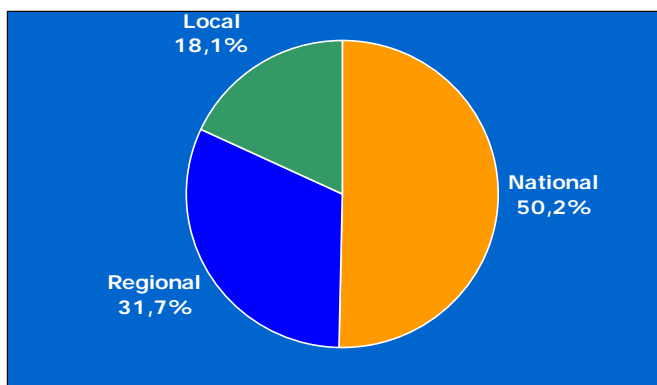
Public Administration ICT expenditure breakdown by Cost:
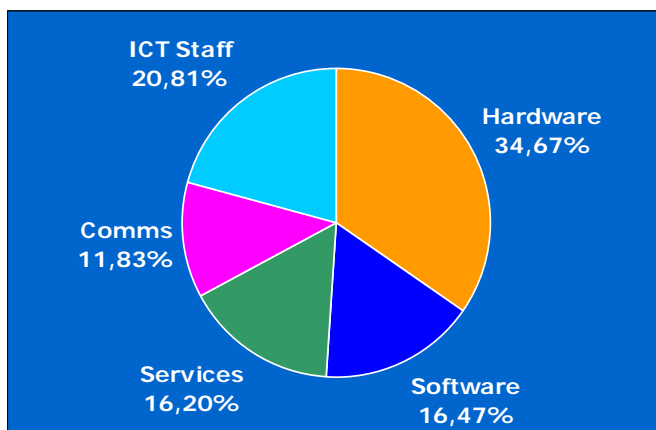
eGovernment expenditure (millions euro): 52.97

eGovernment expenditure per capita: .... € 5.24

eGovernment expenditure on GDP: 0.07%

eGovernment expenditure breakdown by Layer:
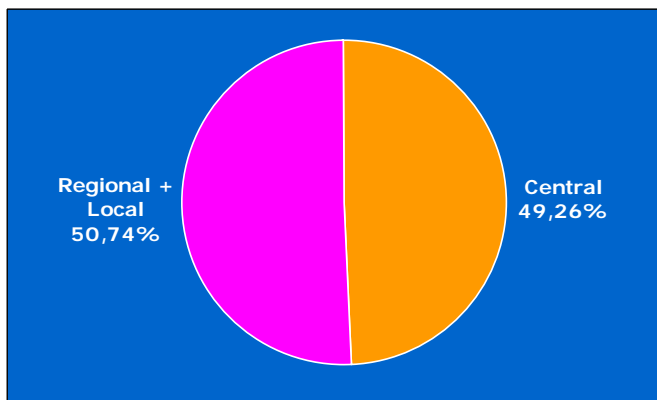
Ireland

Structural Indicators

Population (1000 people): 4,024.6

GDP at market price (millions euro): 148,157.5

GDP per capita (PPS; EU25=100): 137.7

Total ICT expenditure (millions euro): 6,213.00

Total ICT expenditure per capita (thousands euro): 1,543.76

Total ICT expenditure on GDP: 4.18%

Public Servants: .... 230,800 (Source: ILO; Baseline: 1997)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 40%

Percentage of enterprises with Internet access: 92%

Percentage of individuals using Internet at least once a week: 27%

Percentage of households with a broadband connection: 3%

Percentage of enterprises with a broadband connection: 32%

Percentage of individuals having purchased/ordered online in the last three months: 10%

Percentage of enterprises having received orders online within the previous year: 19%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: 11.4%

      Downloading forms: 8.7%

      Returning filled forms: 6.3%

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 60%

      Downloading forms: 54%

      Returning filled forms: 32%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 255.75

Public Administration ICT expenditure per capita: .... € 63.55

Public Administration ICT expenditure on GDP: 0.17%

Public Administration ICT expenditure breakdown by Layer:
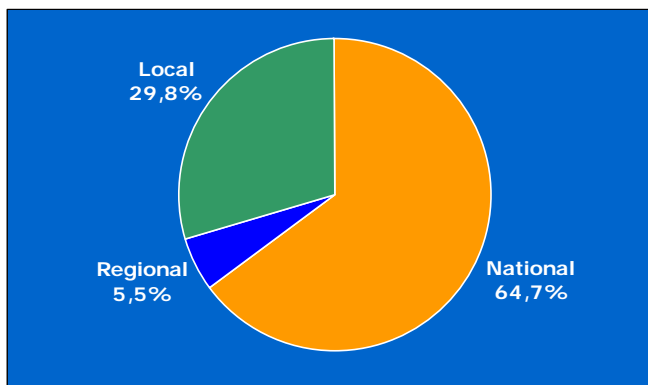


Public Administration ICT expenditure breakdown by Cost:
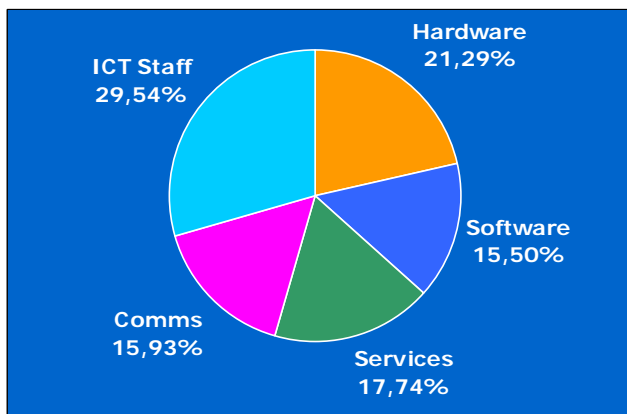
eGovernment expenditure (millions euro): 61.76

eGovernment expenditure per capita: .... € 15.35

eGovernment expenditure on GDP: 0.04%

eGovernment expenditure breakdown by Layer:
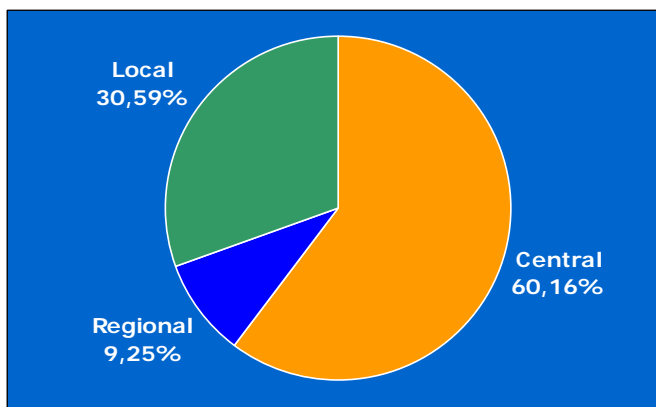
Italy

Structural Indicators

Population (1000 people): 57,888.2

GDP at market price (millions euro): 1,351,327.9

GDP per capita (PPS; EU25=100): 103.4

Total ICT expenditure (millions euro): 66,599.00

Total ICT expenditure per capita (thousands euro):..1,152.15

Total ICT expenditure on GDP:... 4.93%

Public Servants:..3,508,200 (Source: ILO; Baseline: 2000)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 34%

Percentage of enterprises with Internet access: 87%

Percentage of individuals using Internet at least once a week: 26%

Percentage of households with a broadband connection: .... N.A. (13% in 2005)

Percentage of enterprises with a broadband connection: 51%

Percentage of individuals having purchased/ordered online in the last three months: 4%

Percentage of enterprises having received orders online within the previous year: 3%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: .... N.A. (13% in 2005)

      Downloading forms: .... N.A. (9.1% in 2005)

      Returning filled forms: .... N.A. (3.6% in 2005)

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 51%

      Downloading forms: 51%

      Returning filled forms: 36%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro):....................................... 3,882.60

Public Administration ICT expenditure per capita: .... € 67.17

Public Administration ICT expenditure on GDP:...0.29%

Public Administration ICT expenditure breakdown by Layer:
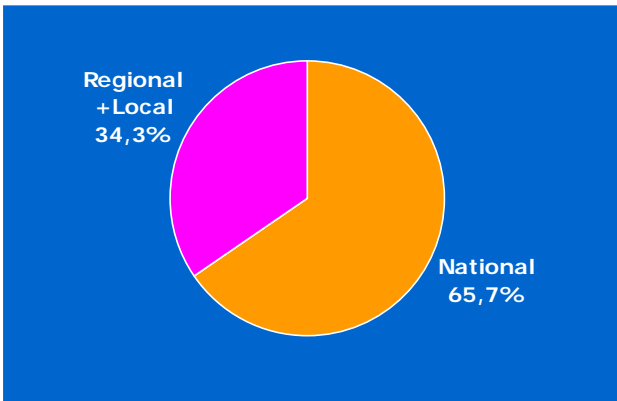
Public Administration ICT expenditure breakdown by Cost:
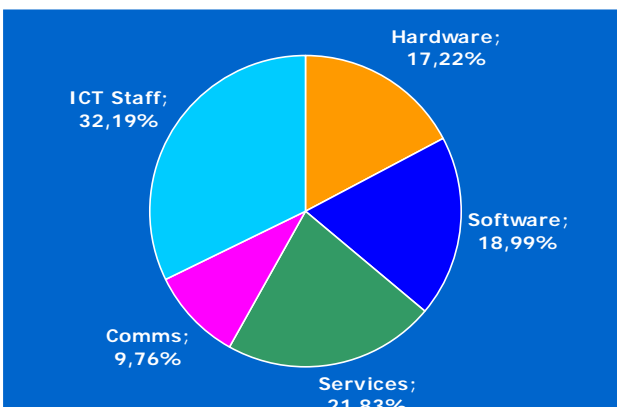
eGovernment expenditure (millions euro): 726,000

eGovernment expenditure per capita .... € 12.56

eGovernment expenditure on GDP:...0.05%

eGovernment expenditure breakdown by Layer:
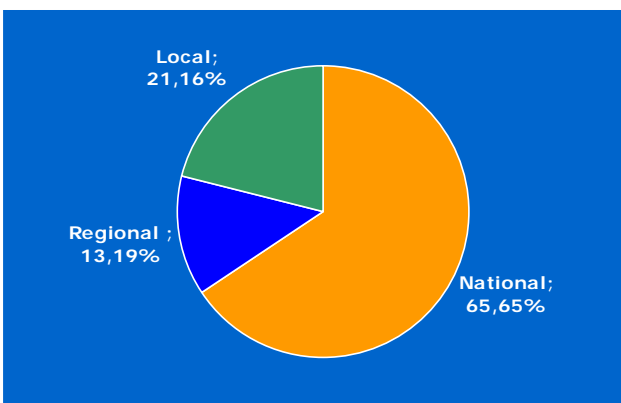
Latvia

Structural Indicators

Population (1000 people): 2,319.2

GDP at market price (millions euro): 11,023.8

GDP per capita (PPS; EU25=100): 43.1

Total ICT expenditure (millions euro): 839.00

Total ICT expenditure per capita (thousands euro): 361.76

Total ICT expenditure on GDP: 7.58%

Public Servants: .... 232,500 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 15%

Percentage of enterprises with Internet access: 74%

Percentage of individuals using Internet at least once a week: 27%

Percentage of households with a broadband connection: 5%

Percentage of enterprises with a broadband connection: 45%

Percentage of individuals having purchased/ordered online in the last three months: 2%

Percentage of enterprises having received orders online within the previous year: 1%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 12.1%

    Downloading forms: 4.2%

    Returning filled forms: 3.6%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 38%

    Downloading forms: 33%

    Returning filled forms: 15%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 30.36

Public Administration ICT expenditure per capita: .... € 13.09

Public Administration ICT expenditure on GDP: 0.27%

Public Administration ICT expenditure breakdown by Layer:
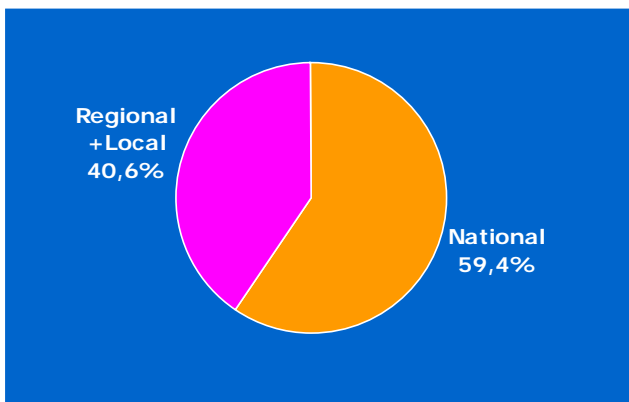
Public Administration ICT expenditure breakdown by Cost:
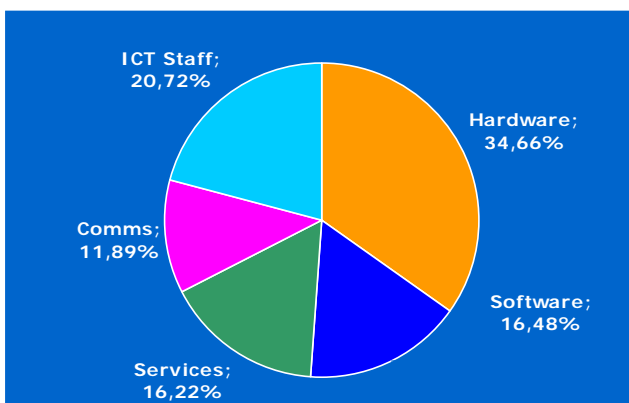
eGovernment expenditure (millions euro): 2.58

eGovernment expenditure per capita: .... € 1.11

eGovernment expenditure on GDP:...0.02%

eGovernment expenditure breakdown by Layer:
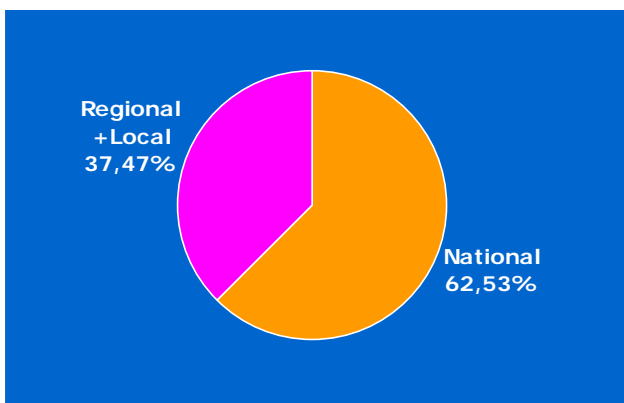
Lithuania

Structural Indicators

Population (1000 people): 3,445.9

GDP at market price (millions euro): 17,926.3

GDP per capita (PPS; EU25=100): 48

Total ICT expenditure (millions euro): 1,052.00

Total ICT expenditure per capita (thousands euro): 305.29

Total ICT expenditure on GDP: 5.87%

Public Servants: .... 331,200 (Source: ILO; Baseline: 2003)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 12%

Percentage of enterprises with Internet access: 81%

Percentage of individuals using Internet at least once a week: 26%

Percentage of households with a broadband connection: 4%

Percentage of enterprises with a broadband connection: 50%

Percentage of individuals having purchased/ordered online in the last three months: 1%

Percentage of enterprises having received orders online within the previous year: 5%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: 8.9%

      Downloading forms: 5.7%

      Returning filled forms: 5.5%

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 63%

      Downloading forms: 60%

      Returning filled forms: 30%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 59.25

Public Administration ICT expenditure per capita: .... € 17.19

Public Administration ICT expenditure on GDP: 0.33%

Public Administration ICT expenditure breakdown by Layer:
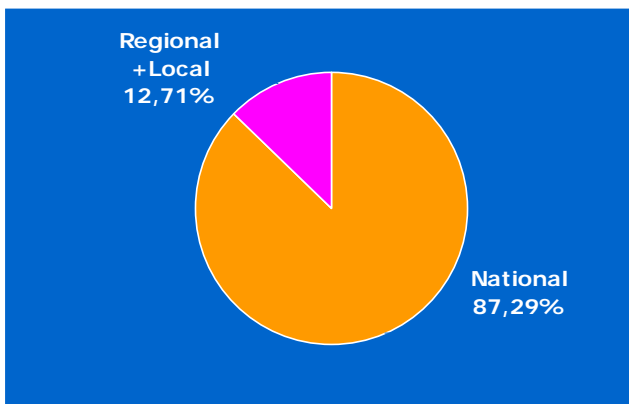
Public Administration ICT expenditure breakdown by Cost:
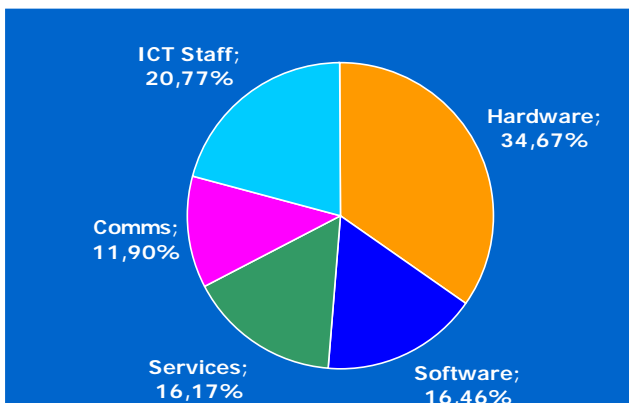
eGovernment expenditure (millions euro): 11.20

eGovernment expenditure per capita: .... € 3.25

eGovernment expenditure on GDP: 0.06%

eGovernment expenditure breakdown by Layer:
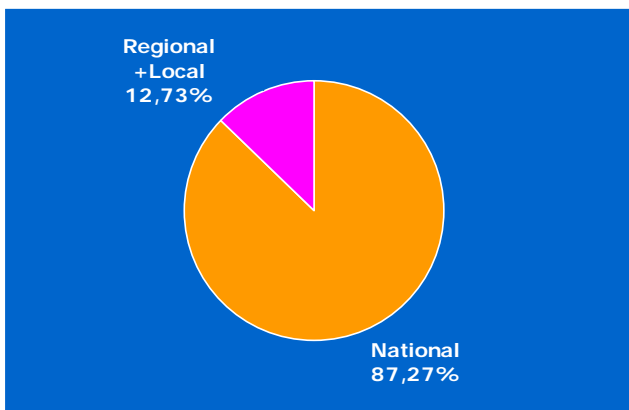
Luxembourg

Structural Indicators

Population (1000 people): 451.6

GDP at market price (millions euro): 25,663.5

GDP per capita (PPS; EU25=100): 227.2

Total ICT expenditure (millions euro): .... N.A.

Total ICT expenditure per capita (thousands euro): .... N.A.

Total ICT expenditure on GDP: .... N.A.

Public Servants: .... 30,100 (Source: ILO; Baseline: 2000)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 59%

Percentage of enterprises with Internet access: 90%

Percentage of individuals using Internet at least once a week: 59%

Percentage of households with a broadband connection: 16%

Percentage of enterprises with a broadband connection: 48%

Percentage of individuals having purchased/ordered online in the last three months: 32%

Percentage of enterprises having received orders online within the previous year: 11%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 35.6%

    Downloading forms: 28.8%

    Returning filled forms: 21.2%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 64%

    Downloading forms: 63%

    Returning filled forms: 26%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 80,70

Public Administration ICT expenditure per capita: .... € 178.70

Public Administration ICT expenditure on GDP: 0.31%

Public Administration ICT expenditure breakdown by Layer: .... N.A.

Public Administration ICT expenditure breakdown by Cost:
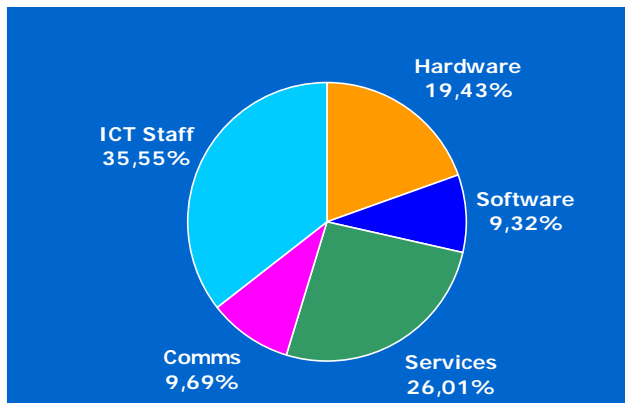
eGovernment expenditure (millions euro): 26.80

eGovernment expenditure per capita: .... € 59.34

eGovernment expenditure on GDP: 0.10%

eGovernment expenditure breakdown by Layer: .... N.A.

Malta

Structural Indicators

Population (1000 people): 399.9

GDP at market price (millions euro): 4,276.9

GDP per capita (PPS; EU25=100): 69.4

Total ICT expenditure (millions euro): .... N.A.

Total ICT expenditure per capita (thousands euro): .... N.A.

Total ICT expenditure on GDP: .... N.A.

Public Servants: .... 43,400 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: .... N.A.

Percentage of enterprises with Internet access: .... N.A. (90% in 2003)

Percentage of individuals using Internet at least once a week: .... N.A.

Percentage of households with a broadband connection: .... N.A.

Percentage of enterprises with a broadband connection: .... N.A. (63% in 2003)

Percentage of individuals having purchased/ordered online in the last three months: ...... N.A.

Percentage of enterprises having received orders online within the previous year: .... N.A.

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: .... N.A.

    Downloading forms: .... N.A.

    Returning filled forms: .... N.A.

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: .... N.A. (75% in 2003)

    Downloading forms: .... N.A. (55% in 2003)

    Returning filled forms: .... N.A. (36% in 2003)

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 18.2

Public Administration ICT expenditure per capita: .... € 45.51

Public Administration ICT expenditure on GDP: 0.42%

Public Administration ICT expenditure breakdown by Layer: .... N.A.

Public Administration ICT expenditure breakdown by Cost:
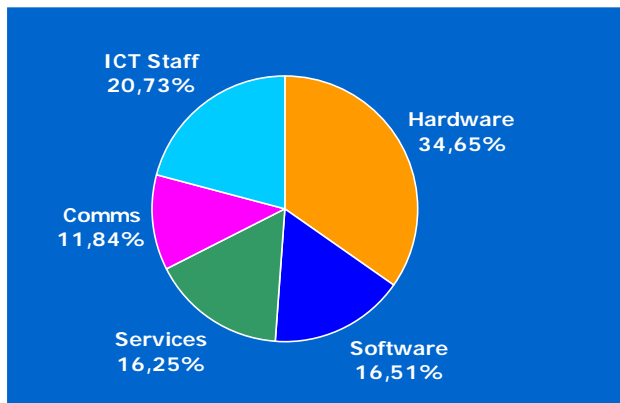
eGovernment expenditure (millions euro): 4.15

eGovernment expenditure per capita: .... € 10.38

eGovernment expenditure on GDP:..0.10%

eGovernment expenditure breakdown by Layer: .... N.A.

Netherlands

Structural Indicators

Population (1000 people): 16,254.9

GDP at market price (millions euro): 488,462

GDP per capita (PPS; EU25=100): 125

Total ICT expenditure (millions euro): 31,423.00

Total ICT expenditure per capita (thousands euro): 1,933.14

Total ICT expenditure on GDP: 6.43%

Public Servants: .... 1,039,600 (Source: ILO; Baseline: 2003)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 71%

Percentage of enterprises with Internet access: 88%

Percentage of individuals using Internet at least once a week: .... N.A.

Percentage of households with a broadband connection: 34%

Percentage of enterprises with a broadband connection: 54%

Percentage of individuals having purchased/ordered online in the last three months: 24%

Percentage of enterprises having received orders online within the previous year: 17%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: .... 17.2% (40.7% in 2005)

    Downloading forms: .... N.A. (21.8% in 2005)

    Returning filled forms: .... N.A.

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 43%

    Downloading forms: 39%

    Returning filled forms: 23%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 1,621.00

Public Administration ICT expenditure per capita: .... € 99.72

Public Administration ICT expenditure on GDP: 0.33%

Public Administration ICT expenditure breakdown by Layer:
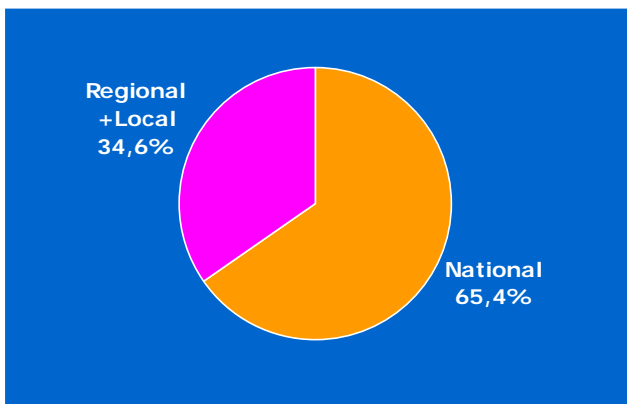
Public Administration ICT expenditure breakdown by Cost:
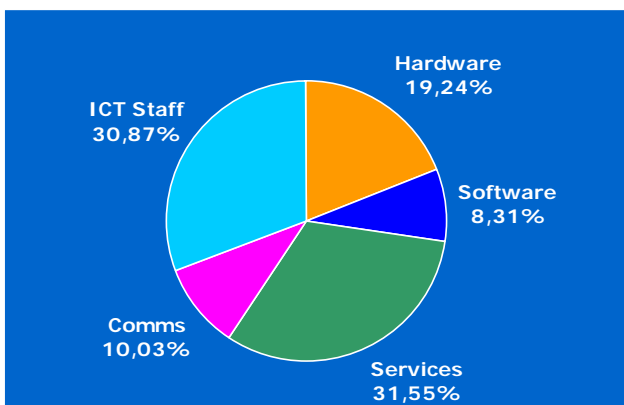
eGovernment expenditure (millions euro): 572.21

eGovernment expenditure per capita: .... € 35.57

eGovernment expenditure on GDP:...0.12%

eGovernment expenditure breakdown by Layer:
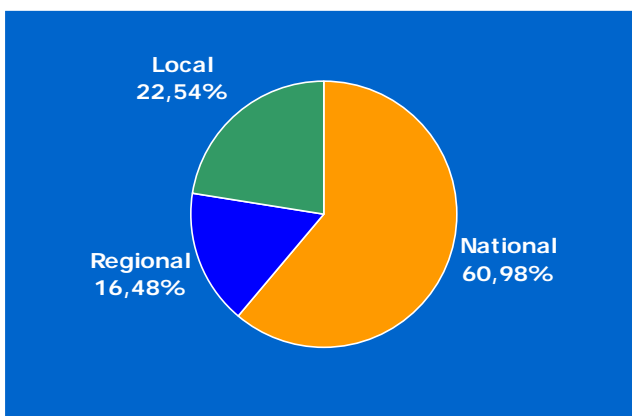
Poland

Structural Indicators

Population (1000 people): 38,190.6

GDP at market price (millions euro): 195,205.5

GDP per capita (PPS; EU25=100): 49.1

Total ICT expenditure (millions euro): 13,873.00

Total ICT expenditure per capita (thousands euro): 363.26

Total ICT expenditure on GDP: 7.11%

Public Servants: .... 1,594,300 (Source: ILO; Baseline: 2003)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 26%

Percentage of enterprises with Internet access: 85%

Percentage of individuals using Internet at least once a week: 22%

Percentage of households with a broadband connection: 8%

Percentage of enterprises with a broadband connection: 24%

Percentage of individuals having purchased/ordered online in the last three months: 3%

Percentage of enterprises having received orders online within the previous year: 4%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 11.9%

    Downloading forms: 5.6%

    Returning filled forms: 3.5%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 57%

    Downloading forms: 47%

    Returning filled forms: 68%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 345.51

Public Administration ICT expenditure per capita: .... € 9.05

Public Administration ICT expenditure on GDP: 0.18%

Public Administration ICT expenditure breakdown by Layer:
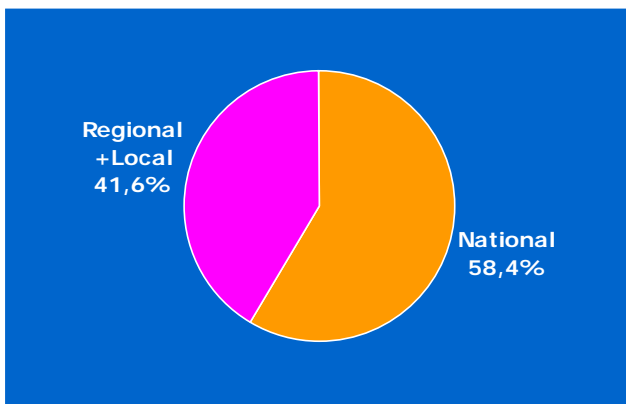
Public Administration ICT expenditure breakdown by Cost:
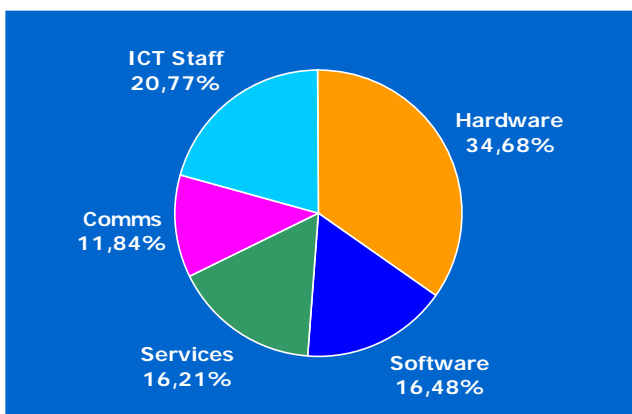
eGovernment expenditure (millions euro): 26.78

eGovernment expenditure per capita: .... € 0.70

eGovernment expenditure on GDP: 0.01%

eGovernment expenditure breakdown by Layer:
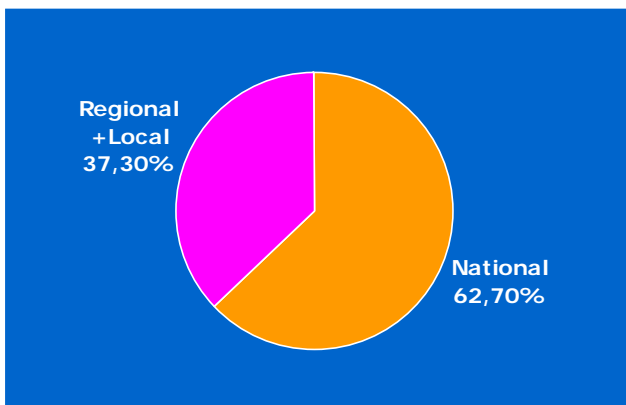
Portugal

Structural Indicators

Population (1000 people): 10,474.9

GDP at market price (millions euro): 142,433

GDP per capita (PPS; EU25=100): 72.4

Total ICT expenditure (millions euro): 8,627.00

Total ICT expenditure per capita (thousands euro): 853.59

Total ICT expenditure on GDP: 6.39%

Public Servants: .... 732,900 (Source: ILO; Baseline: 2002)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 26%

Percentage of enterprises with Internet access: 77%

Percentage of individuals using Internet at least once a week: 25%

Percentage of households with a broadband connection: 12%

Percentage of enterprises with a broadband connection: 49%

Percentage of individuals having purchased/ordered online in the last three months: 3%

Percentage of enterprises having received orders online within the previous year: 6%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 10.3%

    Downloading forms: 7.6%

    Returning filled forms: 7.6%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 51%

    Downloading forms: 47%

    Returning filled forms: 50%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 411.49

Public Administration ICT expenditure per capita: .... € 39.28

Public Administration ICT expenditure on GDP: 0.30%

Public Administration ICT expenditure breakdown by Layer:
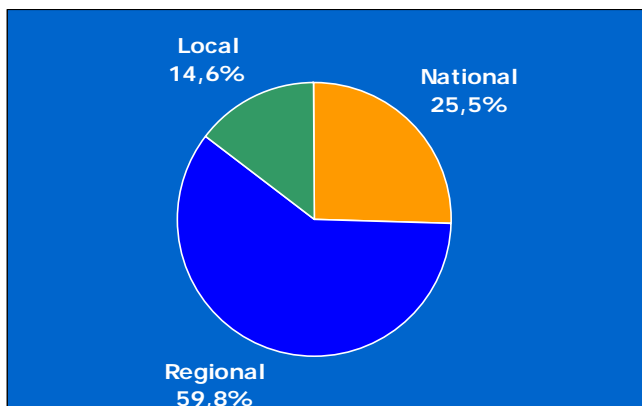
Public Administration ICT expenditure breakdown by Cost:
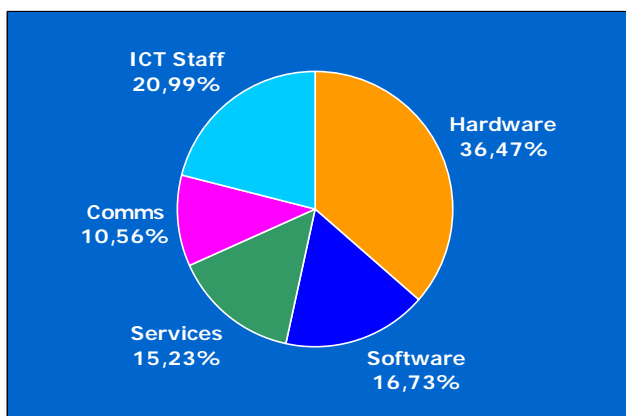
eGovernment expenditure (millions euro): 134.93

eGovernment expenditure per capita: .... € 12.88

eGovernment expenditure on GDP: 0.10%

eGovernment expenditure breakdown by Layer:
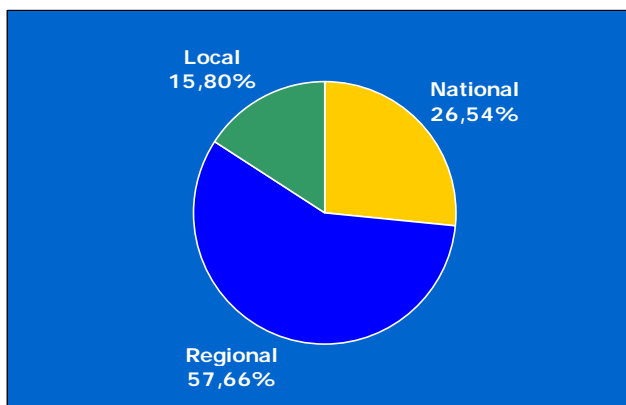
Slovakia

Structural Indicators

Population (1000 people): 5,380.1

GDP at market price (millions euro): 33,118.9

GDP per capita (PPS; EU25=100): 79.5

Total ICT expenditure (millions euro): 1,989.00

Total ICT expenditure per capita (thousands euro): 369.70

Total ICT expenditure on GDP: 6.01%

Public Servants: .... 530,000 (Source ILO: Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 23%

Percentage of enterprises with Internet access: 71%

Percentage of individuals using Internet at least once a week: 40%

Percentage of households with a broadband connection: 4%

Percentage of enterprises with a broadband connection: 25%

Percentage of individuals having purchased/ordered online in the last three months: 6%

Percentage of enterprises having received orders online within the previous year: 6%

Percentage of individuals using the Internet for interacting with public authorities:

    Obtaining information: 20.9%

    Downloading forms: 12.9%

    Returning filled forms: 4.9%

Percentage of enterprises using the Internet for interacting with public authorities:

    Obtaining information: 42%

    Downloading forms: 41%

    Returning filled forms: 18%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 74.87

Public Administration ICT expenditure per capita: .... € 13.92

Public Administration ICT expenditure on GDP: 0.23%

Public Administration ICT expenditure breakdown by Layer:
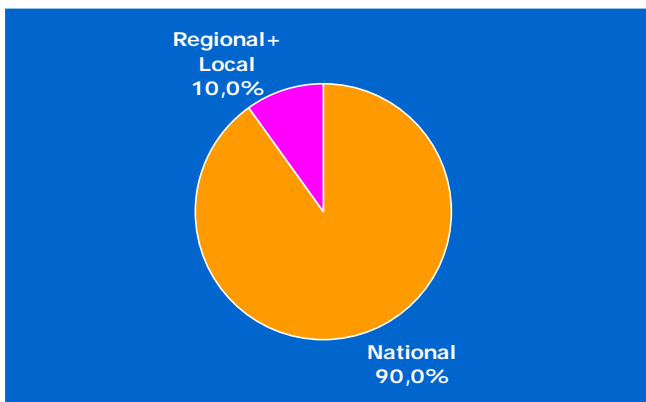
Public Administration ICT expenditure breakdown by Cost:
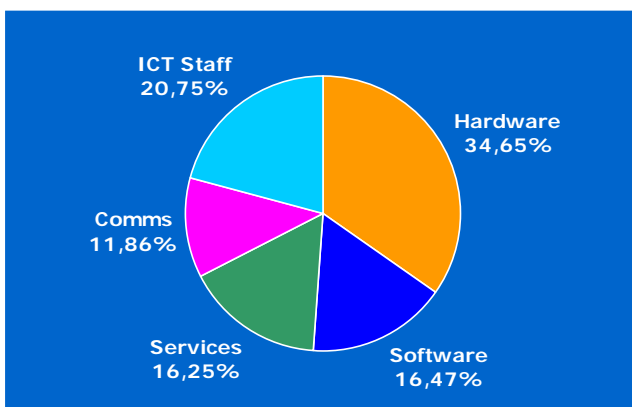
eGovernment expenditure (millions euro): 6.81

eGovernment expenditure per capita: .... € 1.27

eGovernment expenditure on GDP:...0.02%

eGovernment expenditure breakdown by Layer:
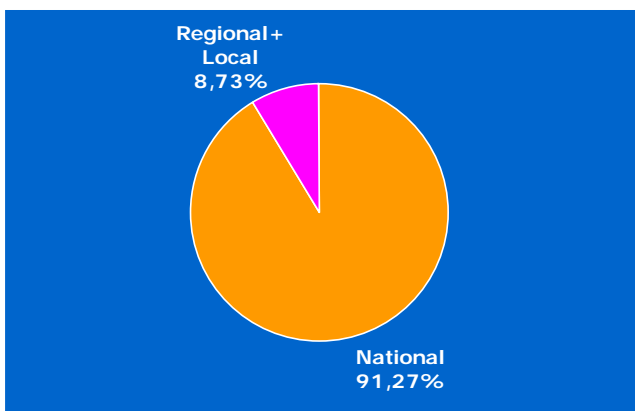
Slovenia

Structural Indicators

Population (1000 people): 1,996.4

GDP at market price (millions euro): 26,146.3

GDP per capita (PPS; EU25=100): 54

Total ICT expenditure (millions euro): 1,343.00

Total ICT expenditure per capita (thousands euro): 672.71

Total ICT expenditure on GDP: 5.19%

Public Servants: .... 144,300 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 47%

Percentage of enterprises with Internet access: 93%

Percentage of individuals using Internet at least once a week: 33%

Percentage of households with a broadband connection: 10%

Percentage of enterprises with a broadband connection: 62%

Percentage of individuals having purchased/ordered online in the last three months: 4%

Percentage of enterprises having received orders online within the previous year: 15%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: 11.7%

      Downloading forms: 7.0%

      Returning filled forms: 2.9%

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 46%

      Downloading forms: 43%

      Returning filled forms: 36%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 93.30

Public Administration ICT expenditure per capita: .... € 46.73

Public Administration ICT expenditure on GDP: 0.36%

Public Administration ICT expenditure breakdown by Layer:
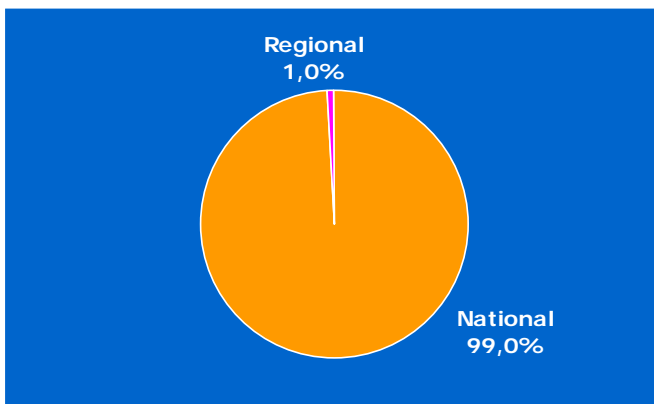
Public Administration ICT expenditure breakdown by Cost:
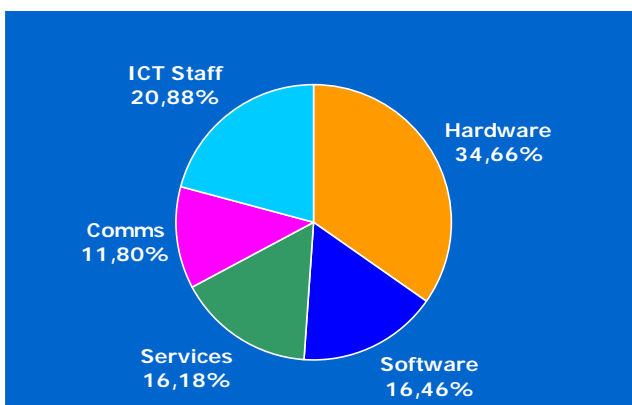
eGovernment expenditure (millions euro): 30.98

eGovernment expenditure per capita: .... € 15.52

eGovernment expenditure on GDP:..0.12%

eGovernment expenditure breakdown by Layer:
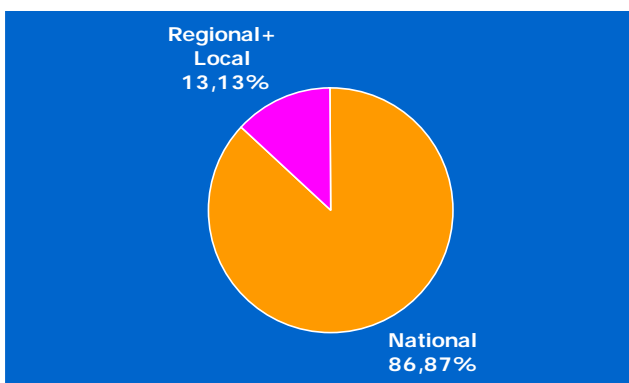
Spain

Structural Indicators

Population (1000 people): 42,197.2

GDP at market price (millions euro): 837,557

GDP per capita (PPS; EU25=100): 98.0

Total ICT expenditure (millions euro): 36,088.00

Total ICT expenditure per capita (thousands euro): 855.21

Total ICT expenditure on GDP: 4.31%

Public Servants: ....2,576,200 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 34%

Percentage of enterprises with Internet access: 87%

Percentage of individuals using Internet at least once a week: 31%

Percentage of households with a broadband connection: 15%

Percentage of enterprises with a broadband connection: 72%

Percentage of individuals having purchased/ordered online in the last three months: 5%

Percentage of enterprises having received orders online within the previous year: 1%

Percentage of individuals using the Internet for interacting with public authorities:

     Obtaining information: 22%

     Downloading forms: 11.6%

     Returning filled forms: 6.7%

Percentage of enterprises using the Internet for interacting with public authorities:

     Obtaining information: 48%

     Downloading forms: 35%

     Returning filled forms: 32%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 2,403.78

Public Administration ICT expenditure per capita: .... € 56.96

Public Administration ICT expenditure on GDP: 0.29%

Public Administration ICT expenditure breakdown by Layer:
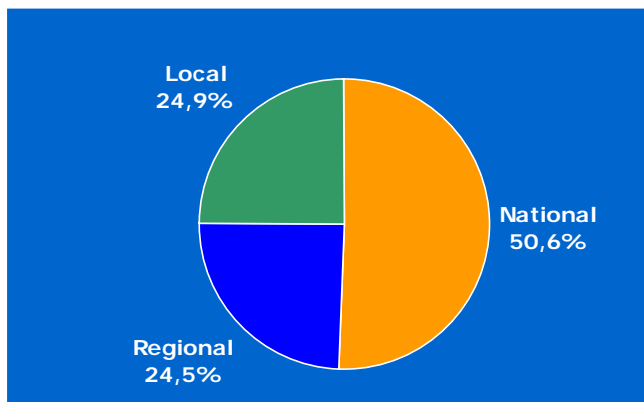
Public Administration ICT expenditure breakdown by Cost:
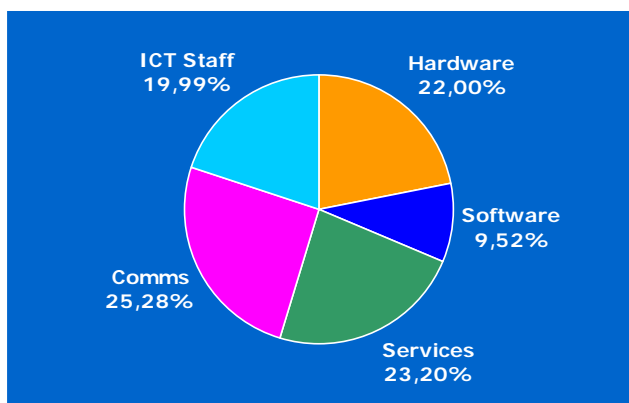
eGovernment expenditure (millions euro): 468.74

eGovernment expenditure per capita: .... € 11.11

eGovernment expenditure on GDP:..0.06%

eGovernment expenditure breakdown by Layer:
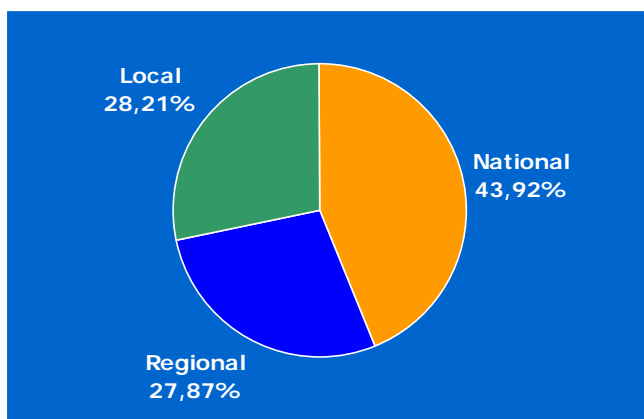
Sweden

Structural Indicators

Population (1000 people): 8,975.7

GDP at market price (millions euro): 279,007.7

GDP per capita (PPS; EU25=100): 117.9

Total ICT expenditure (millions euro): 21,146.00

Total ICT expenditure per capita (thousands euro):..2,355.92

Total ICT expenditure on GDP:... 7.58%

Public Servants:..1,195,100 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: .... N.A.

Percentage of enterprises with Internet access: 96%

Percentage of individuals using Internet at least once a week: 75%

Percentage of households with a broadband connection: .... N.A.

Percentage of enterprises with a broadband connection: 75%

Percentage of individuals having purchased/ordered online in the last three months: 30%

Percentage of enterprises having received orders online within the previous year: 20%

Percentage of individuals using the Internet for interacting with public authorities:

      Obtaining information: 35.8%

      Downloading forms: 20.2%

      Returning filled forms: 11.3%

Percentage of enterprises using the Internet for interacting with public authorities:

      Obtaining information: 90%

      Downloading forms: 87%

      Returning filled forms: 53%

Source: Eurostat (baseline 2004)

Public Sector Indicators

Public Administration ICT expenditure (millions euro): 2,292.00

Public Administration ICT expenditure per capita: .... € 255.36

Public Administration ICT expenditure on GDP:...0.82%

Public Administration ICT expenditure breakdown by Layer:
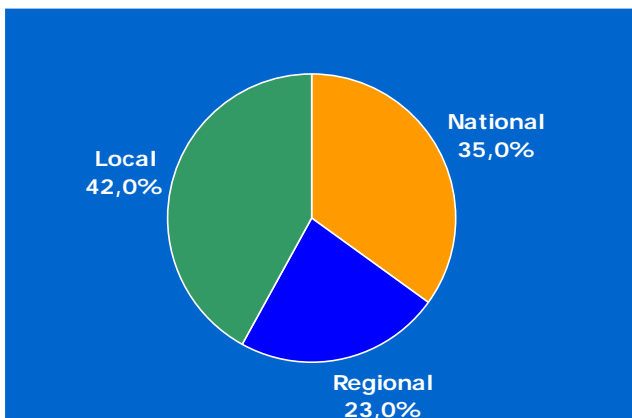
Public Administration ICT expenditure breakdown by Cost:
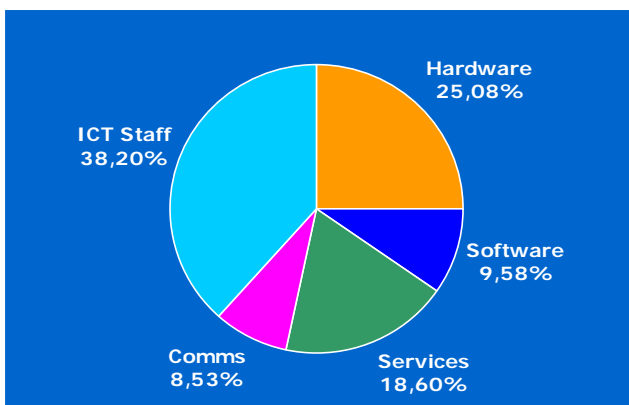
eGovernment expenditure (millions euro): 904.19

eGovernment expenditure per capita: .... € 100.74

eGovernment expenditure on GDP: 0.32%

eGovernment expenditure breakdown by Layer:
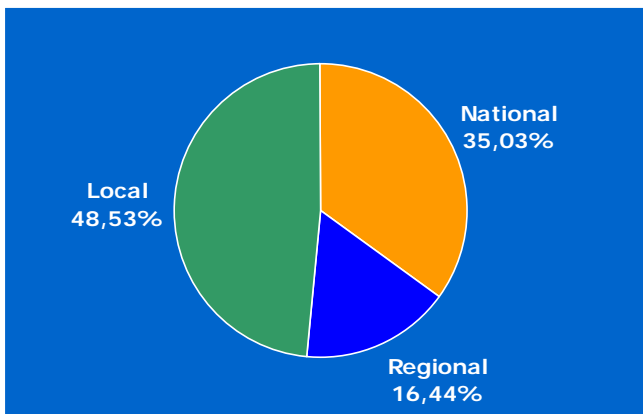
United Kingdom

Structural Indicators

Population (1000 people): 59,673.1

GDP at market price (millions euro): 1,715,059.1

GDP per capita (PPS; EU25=100): 116.8

Total ICT expenditure (millions euro): 114,070.00

Total ICT expenditure per capita (thousands euro): 1,916.64

Total ICT expenditure on GDP: 6.65%

Public Servants: ....5,360,000 (Source: ILO; Baseline: 2004)

Source: Eurostat (baseline 2004)

Information Society Indicators

Percentage of households with Internet access: 56%

Percentage of enterprises with Internet access: 87%

Percentage of individuals using Internet at least once a week: 49%

Percentage of households with a broadband connection: 16%

Percentage of enterprises with a broadband connection: 84%

Percentage of individuals having purchased/ordered online in the last three months: 28%

Percentage of enterprises having received orders online within the previous year: 27%

Percentage of individuals using the Internet for interacting with public authorities:

     Obtaining information: 19.5%

     Downloading forms: 6.9%

     Returning filled forms: 3.4%

Percentage of enterprises using the Internet for interacting with public authorities:

     Obtaining information: 31%

     Downloading forms: 27%

     Returning filled forms: 11%

Source: Eurostat (baseline 2004)

Public Sector Indicators[265]

Public Administration ICT expenditure (millions euro): 8,815.44

Public Administration ICT expenditure per capita: .... € 148.12

Public Administration ICT expenditure on GDP: 0.51%

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[265] Data for UK ICT and eGovernment expenditure are taken from Kable report *ICT spend in the European public sector to 2007.*

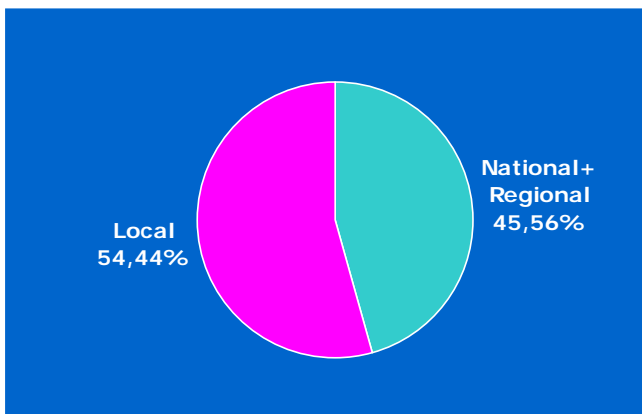Public Administration ICT expenditure breakdown by Layer:
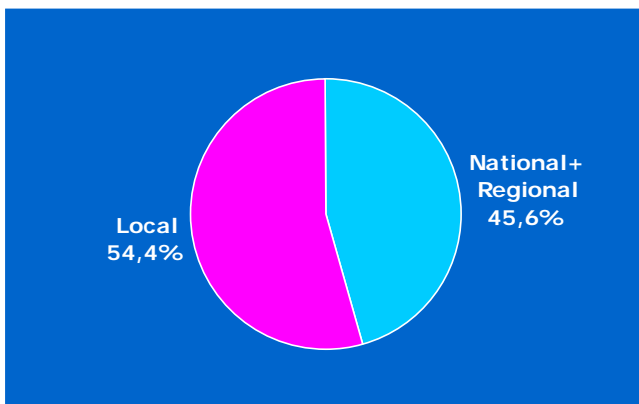
Public Administration ICT expenditure breakdown by Cost:
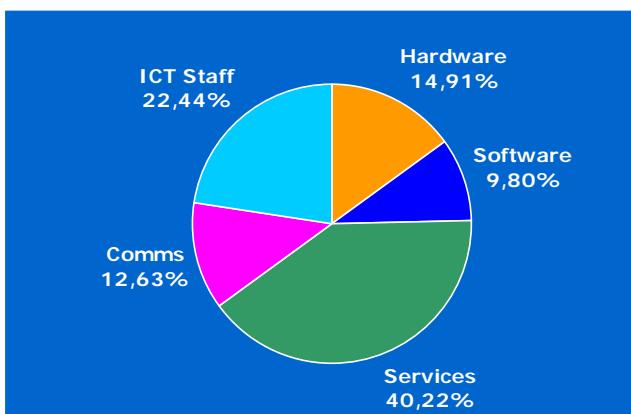
eGovernment expenditure (millions euro): 3,408.80

eGovernment expenditure per capita: .... € 57.28

eGovernment expenditure on GDP:...0.20%

eGovernment expenditure breakdown by Layer:

For further information about the eGovernment Unit

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