| Programme |
| --- |
| Integrating and Strengthening the European Research Area |
| Strategic Objective |
| ICT Research for Innovative Government |
| Integrated Project / Programme Title |
| Process Identification and Clustering for Transparency in Reorganising Public Administrations |
| Acronym |
| **PICTURE** |
| Project No |
| 027717 |
| PICTURE– Work Package Name |
| WP7: Dissemination & Exploitation |

# Deliverable Number: D7.14

# Final Project Documentation

Leading Partner: CSI

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## Legal Disclaimer

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## 1. Summary

PICTURE is a European Commission-funded STREP (Specific Targeted Research Project), co-financed by the 6th Framework Programme of the European Commission. The project developed an approach to support decision makers in European Public Administrations (PAs) in developing their ICT investment strategy.

The approach enables PAs to:

- get an overview of their complete process landscape;
- analyze the processes to identify weaknesses and areas for improvement through ICT and
- get consolidated reports and figures for their decisions.

Participating municipalities gained more insight into their process landscape, were able to increase transparency of their processes and raised awareness for process management related topics throughout their organizations. By using a public sector specific modeling language based on process building blocks and a guided modeling approach a much broader range of employees could be involved than in standard process modeling projects. Furthermore, training and education on process management topics was greatly facilitated.

The joint definition of weakness profiles, their impact on the processes and the determination of the appropriate ICT to address them raised awareness for potential improvements and necessary re-organization measures. Consolidated reports and graphical process representations facilitated also communication to top-level management and helped to raise awareness for process management efforts. The project results also laid the foundation for further process management and benchmarking efforts in the participating municipalities and their respective local networks.

The PICTURE project also contributed significantly to the related research areas which is documented in an extensive list of publications. Major contributions were made in the area of modeling methodologies, domain-specific modeling languages, semi-automated analysis of processes and process optimization.

The PICTURE results have been actively disseminated throughout Europe and also world-wide in scientific as well as domain-specific events through workshops, presentations, and demonstrations of the PICTURE prototype. Also, a screen cam demonstrating the PICTURE methodology and the related prototype is available from the project website. PICTURE results will also be published in a book chapter in 2009 (contribution accepted for “Handbook of Research on ICT-Enabled Transformational Government: A Global Perspective”, editors Marijn Janssen, Vishanth Weerakody).

The PICTURE project started on the 1st February 2006 and ends on 31st January 2009.

# 2. Project Setup – Contractors and Organizational Information

## 2.1. Overview

| | |
|---|---|
| Project title | Process Identification and Clustering for Transparency in Reorganising Public Administrations |
| Project Acronym | PICTURE |
| Project Contract Number | 027717 |
| Framework Programme | FP6 Framework Programme (2002-2006) |
| Thematic Priority | Information Society Technologies (IST) |
| Start Date | 01.01.2006 |
| End Date | 31.01.2009 |
| Duration | 36 months |
| Project website | http://www.picture-eu.org |
| Project Partners | • SAP (project co-ordinator)<br>• CSI-Piemonte<br>• ERCIS, University of Muenster<br>• FILENET/IBM<br>• IWI-HSG, University of St. Gallen<br>• PLANET<br>• ZIE, University of Lodz<br>• City of Amaroussion<br>• City of Lodz<br>• City of Muenster<br>• City of Turin<br>• City of Winterthur |

### 2.2. Project Partners

The partners of PICTURE consortium are described in the following.

SAP AG, Germany / (SAP Research Centre, St.Gallen, Switzerland)

SAP has grown to become the world's leading provider of e-business software solutions. With 12 million users, 96,400 installations, and more than 1,500 partners, SAP is the world's largest inter-enterprise software company and the world's third-largest independent software supplier, overall. SAP solutions help enterprises of all sizes around the world to improve customer relationships, enhance partner collaboration and create efficiencies across their supply chains and business operations. SAP Research is the technology research department of SAP and as an integral part of SAP's R&D activities, SAP Research is responsible for identifying, researching, understanding, developing and evaluating new and emerging technologies, processes and e-business solutions that strategically influence the future of SAP business applications. With the focus on applied research, SAP Research bridges the gap between open, collaborative research with external partners and exploitation into new or existing SAP product lines through SAP´s development groups. SAP is the project lead of PICTURE.


European Research Center for Information Systems – ERCIS, Germany

The European Research Center for Information Systems is a network of researchers who conduct cooperative research in the field of integrated information systems development and organizational design. Under a joint institutional umbrella, competencies in the information systems domain are combined with expertise in the areas of computer science, business administration and law that enables a holistic view of information system and organizational design issues. Due to its reputation in both research and teaching in the field of information systems and business administration, the University of Muenster has been selected by the federal state of North Rhine-Westphalia (Ministry of Education and Research) to found the European Research Center for Information Systems. The department of information system at the University of Muenster will be the participating research institution. The ERCIS comprises a network of European and international universities and research institutions as Associate ERCIS Members. Within the PICTURE project ERCIS contributed with its strong knowledge in Method Engineering (especially Modeling Technique Design) and Conceptual Design. ERCIS has developed the necessary innovative modeling approach for process landscaping of public administrations. The ERCIS coordinated the involvement of the City of Muenster which is in the immediate neighborhood of ERCIS.


PLANET S.A., Greece

PLANET is the first SME multinational consulting firm to provide both Management and Engineering Consulting services in Southeast Europe. PLANET S.A. was founded in 1987. PLANET is the leading management consulting company in Greece. PLANET employs 120 professionals, with activities in Greece, Cyprus, Turkey and the Balkan countries. PLANET has implemented several BPR projects both in the Greek and foreign public administration and

governmental organizations. The BPR projects aimed at the proposition of process improvement actions and their impact measurement. Within the PICTURE project, PLANET contributed with its strong knowledge in improvement measures and their measurement in BPR projects. PLANET coordinated the involvement of the City of Amaroussion which is in the immediate neighborhood of PLANET.


CSI-Piemonte, Italy

CSI-Piemonte is an ICT consortium founded in 1977 among 52 public stakeholders of the Piemonte Region in Italy. The Regione Piemonte Government, the City of Turin Council and the Province of Turin are the main stakeholders and customers of CSI-Piemonte. It is owned by public organizations but it benefits from the corporate governance and agility of a private firm. CSI-Piemonte is serving most of the public bodies (e.g. Local Public Administrations, Universities, and Hospitals) of the region. CSI-Piemonte is the largest Italian ICT company developing e-government projects, building ICT infrastructure, disseminating on-line value added services connecting local PAs and private SME companies. CSI-Piemonte is acting since its birth in designing and managing back-end information systems in areas such as territory management, demography, taxation, and financial and patrimony accounting systems. Within the project CSI-Piemonte contributed with its strong knowledge and standing in the area of dissemination and exploitation of innovative technology and services in the public sector. CSI-Piemonte published PICTURE's findings and ensured that project outcomes could be transferred to the broadest audience, mainly through the European local Government. CSI-Piemonte coordinated the involvement of the City of Turin. The City of Turin is in the immediate neighborhood of CSI-Piemonte.


Institute of Information Management, University of St. Gallen, Switzerland

The Institute of Information Management (IWI-HSG) is one of the leading research institutes of the University of St. Gallen. Founded in 1989, it employs more than 50 researchers, today. The research program "Business Engineering" of the University of St. Gallen incorporates all larger research projects at the IWI-HSG. The aim of this research program is to bring together researchers of the university and public sector experts and business experts from our corporate partners. Core competencies of IWI-HSG and the connected competence centers are: Process Management and Modeling, extensive knowledge about process-landscapes of PA, Reference Modeling for PA, and Process-Cost Management and Analysis. Within this project IWI-HSG contributed with its strong process knowledge in the area of public administrations. IWI-HSG has been responsible for analyzing the state-of-the-art of process modeling in European PA. IWI-HSG identified, developed, and documented adequate process building blocks of administrational processes. IWI-HSG also coordinated the involvement of the City of Winterthur. The City of Winterthur is in the immediate neighborhood of IWI-HSG.


Department of Business Informatics, University of Lodz, Poland

The Department of Business Informatics (Zakład Informatyki Ekonomicznej – ZIE) was established in 1994 at the School of Economy and Sociology at the University of Lodz. The main

field of research is Electronic Data Interchange (EDI) in the public and private sector and Electronic Commerce (EC). ZIE has extensive experiences in public administration units, organization, laws, and processes. ZIE key qualifications include amongst others: Administrative Process Analysis and Conceptualization, Information Systems Developing Methodologies, and Computer-Aided Systems Engineering. Besides those methodological competencies ZIE is specialized in evaluating System Designs, Human-System Interaction and User-Acceptance Models. Thus, the evaluation of the methodology as well as the prototype has been carried out by ZIE. ZIE also coordinated the involvement of the City of Lodz. The City of Lodz is in the immediate neighborhood of ZIE.

FileNet-London, Great Britain

FileNet Corporation has specialized on managing content and processes in everyday decision-making. FileNet offers the full spectrum of back-office ICT support. FileNet solutions include modules for process management, content management, forms management, image management, digital archiving, and web content management. This set of functionality has also been specialized for the application in public administrations, e.g. FileNet solutions are extensively used in The German Federal Foreign Office. FileNet is experienced in analyzing and implementing back-office ICT in public administrations. As FileNet offers the full spectrum of back-office basic ICT FileNet owns comprehensive knowledge about functionality interdependencies, interfaces, and process-driven requirements. FileNet has gained significant knowledge about similarities and differences of ICT support requirements, limitations, and best practices between European countries. FileNet delivered the knowledge base for all technological aspects of the PICTURE methodology. Moreover, FileNet developed an adequate conceptualization of ICT functionality.

City of Amaroussion, Greece

The Municipality of Amaroussion is situated in the northern part of the greater Athens region. Its population counts approximately 100,000 inhabitants. This northern part of the greater Athens region is one of the most developed and high-income zones. In the last fifteen years the city has been gradually transformed into a constantly increasing business centre. Today, more than 1000 companies with more than 60,000 employees have moved in Amaroussion. The city is also one of the most important locations in Greece for companies that are related to advanced technologies. Amaroussion is the first and the only Municipality in Greece, which has been certified under ISO 9002. The aim of the System is to provide the citizens with services, which are in accordance with the required standards, at the lowest possible cost, in the shortest time, in a reliable way and with measurable (quantitative and qualitative) characteristics.

City of Lodz, Poland

Lodz is a European city with a population about one million. Lodz has a well-developed cooperation in the area of economic and cultural development of the city with self-governments and institutions at the local, regional and also international level. Lodz cooperates with the neighboring communes within the Association of the Lodz Region's Communes and the Association of the Pilica's Communes, and also with the other Polish cities within the Association of the Polish Cities and the Union of the Polish Metropolises. Lodz's international cooperation is

mainly based on the contacts with partner cities. At present Lodz is twinned with 16 cities, which include the cities located in Europe and also in countries from other continents. The exchange of experiences and implementation of joint plans are to facilitate economic development, improved living conditions of the community members, their safety and health, and cultural development of Lodz. Economic promotion of Lodz, attracting and providing service for investors who start up their businesses in the Lodz Region, and development of regional infrastructure and investments, are a joint and priority task.

City of Muenster, Germany

The City of Muenster is the regional centre in the Muensterland. The Muensterland is one of the largest regions (over 1.5 million inhabitants) in the NW part of Germany. Muenster municipal area counts over 280.000 inhabitants. The City of Muenster has a county status as well and therefore covers 2 administrative layers at the same time (county status and municipal status). Facing this situation, Muenster has to deliver an even higher number of different administrative public services. Delivery of electronic public services is of strategic relevance as Muenster's economics is focused on the information intense service sector. The City of Muenster has founded its own ICT service company – the CITEQ. CITEQ is responsible for ICT service provision, the development, improvement and support of information systems and applications within the city and its organizations. The CITEQ is also responsible for over 30 more municipalities in the area of the Muensterland. CITEQ is well equipped with specialized application systems but back-office ICT basic components are still missing. CITEQ will be participating in the PICTURE project.

City of Turin, Italy

The City of Turin is the main town in the Piemont Region, a high-developed area in the NW part of Italy. Turin municipal area counts over 0.9 million inhabitants settled on 130.17 square-km. The metropolitan area is wider and includes over 50 smaller municipalities with about 1.7 million inhabitants. The Turin Municipality is having a strong role in the town's redesigning process. The City's general strategy to contribute to the redesign process is presented in the City Strategic Plan, an integrated development and promotion plan called "Torino Internazionale". Within this plan, ICT are a cross tool that affects most of the action lines in the plan. The City of Turin's strategy addresses two main action lines: on the one hand, the Municipality aims at improving the administration organization and the citizens' quality of life through e-government service supply; on the other, Turin Municipality supports the local economy development through actions addressing companies and offering opportunities for business, above all SMEs and start-ups. The Turin Municipality has been investing on ICT-based services and infrastructures since the '70s, both for internal organization and for e-government services. In several cases, the results' excellence has been recognized and awarded, both on a national and on an international level.

City of Winterthur, Switzerland

The City of Winterthur is a city with 95,000 inhabitants located to the east of Zurich. It is the sixth largest city in Switzerland and constitutes an independent economic and cultural hub within

the country's economically most dynamic region, the Greater Zurich Area. It boasts a diverse and highly qualified workforce as well as superbly situated sites and facilities for business. Today, the dynamic and sustainable development of the regional economy is a high priority in Winterthur. For this reason the municipal authority is committed to providing a business-friendly environment and minimizing bureaucracy. An essential part of these ambitious efforts is a consequent E-Government strategy.

## 3. Project Objectives

PICTURE focused on the process modeling, process analysis and reorganization as well as the impact analysis of ICT (information & communication technology) components applied to the public sector in Europe. The key objective was to support decision-makers in Public Administrations to develop successful long-term ICT investment strategies through a methodology that makes the effects of ICTs on administrational processes measurable. The idea is to not determine the impact based on single back-office processes but on a consistent view of all public services and their underlying processes, which we call the process landscape.

From a research perspective, one technological objective and four research objectives were guiding the work in PICTURE:

- Research Objective 1: Design of Process Building Blocks
  A process building block is an abstraction of administrational tasks performed. The identification, design and evaluation of appropriate process building blocks were one of the basic research objectives in PICTURE.
- Research Objective 2: Design of ICT Functionality Groups
  In order to externalize the impact of ICT on process building blocks and hence the overall administrative process-landscape, the relevant ICT functionalities have to be conceptualized. A suitable grouping of ICT functionalities (from different ICT components) into reasonable functionality groups was the second basic research objective in PICTURE.
- Research Objective 3: Develop an ICT Impact Measurement Methodology
  A measurement methodology was developed that enables the measurement of qualitative and quantitative impact of ICT on the process landscape. This measurement methodology was implemented within the PICTURE demonstrator.
- Research Objective 4: Develop a Process Landscaping Methodology
  The process landscaping methodology consists of a visual modeling language and a modeling procedure model. The methodology is able to deliver process landscape models that serve the information needs of the measurement methodology. This process landscaping methodology was implemented within the PICTURE tool.
- Technological Objective: PICTURE Demonstrator
  The PICTURE approach combining the results from the four research objectives was implemented in a web based tool.

## 4. The PICTURE Approach

The aim of the PICTURE approach is to support decision makers in public administrations in their ICT investment decisions. This is achieved by illustrating and quantifying the effects these investments have on the process landscape of a public administration. Figure 1 illustrates a possible scenario how PICTURE can be applied in a reorganization project in public administrations. One possible trigger for applying PICTURE is that management and decision makers in public administrations want to improve the quality of their services for the citizens (cf. Step 1 in Figure 1). That endeavor is supported by a PICTURE expert who is typically a specially trained person in the IT department. This person is responsible for configuring the PICTURE tool according to the goals of the reorganization project (this relates to process modeling as well as to the process analysis) and serves as the advisor in the public administration (Step 2).

The actual PICTURE project in a public administration is conducted in three phases. In the first phase, the modeling phase, the processes of the public administrations are captured. As the decision makers and the PICTURE expert typically do not have an overview over all relevant processes, modeling coordinators from all involved departments assist them in identifying these processes (Step 3). The modeling coordinators then assign modeling tasks to the actual modelers. These modelers are domain experts from the public administrations who model exactly those parts of the processes they are familiar with (Step 4). This allows for a distributed modeling of the whole process landscape of the public administration.

In the next phase, the measurement phase, a semi-automated process analysis is performed and inefficiencies are identified, based on the information captured in the process models. The impact of different ICT investments on these inefficiencies is measured in quantitative and qualitative terms (Step 5).

In the last phase, the analysis and visualization phase, the analysis results are presented to the decision makers in form of consolidated reports. The decision makers can use the results to derive the appropriate reorganization steps and reasonable ICT investments (Step 6).

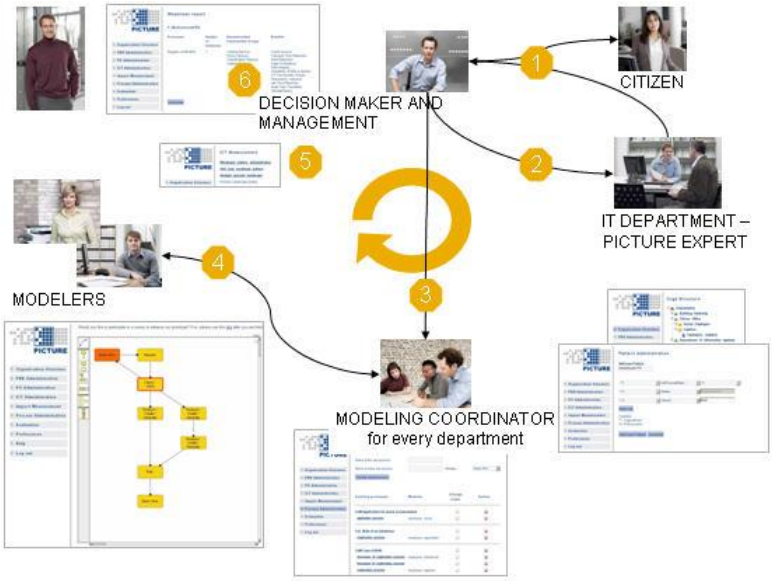



**Figure 1: PICTURE usage scenario**

## 5. Project Results in Detail

The above introduced PICTURE approach comprises the following phases:

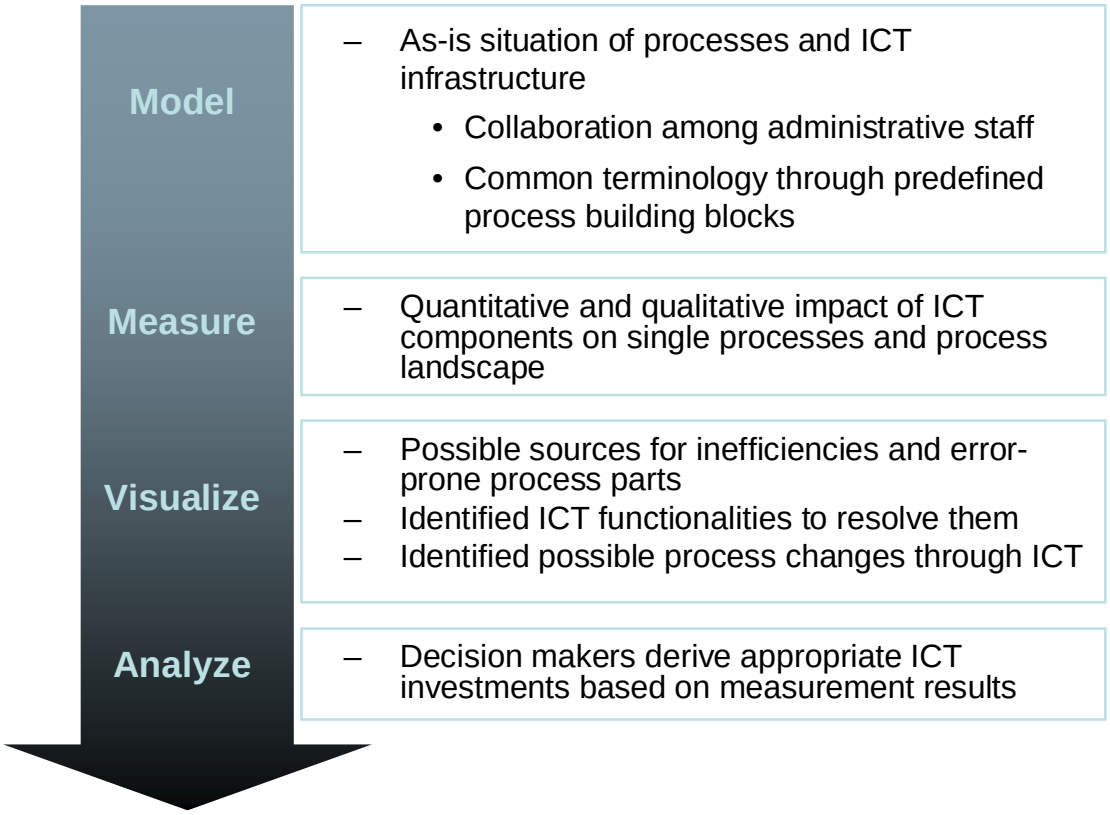



**Figure 2: Model-Measure-Analyse Approach of PICTURE**

- Model the as-is situation of processes and ICT infrastructure in a strictly end-user driven approach. This is achieved through collaborative modeling by administrational staff using pre-defined process building blocks. These ensure usage of a common, syntactically and semantically comparable terminology by all involved participants.
- Measure the impact of ICT components on the process landscape in a quantitative and qualitative dimension. This includes finding potential sources for inefficiencies and error-prone process parts and identifying appropriate ICT functionalities to resolve them. It also includes identifying possible process enhancements through ICT.
- Analyze and Visualize the results in a set of reports which provide the decision makers with a sound foundation for their investment decisions.

### 5.1. Model

In the following, the modeling methodology of the PICTURE approach is presented. The purpose of this methodology is to facilitate the capturing of all processes of a given public administration to provide a broad basis for the subsequent semi-automatic ICT impact analysis. Therefore, the modeling methodology must allow for an efficient and semantically standardized modeling of the process landscape. This is achieved by using a domain specific modeling method based on predefined Process Building Blocks (PBBs), which capture a set of common activities from the domain of public administrations (see next section).

The PICTURE modeling methodology comprises four views: a Process view, an

Organizational view, a Processed Object view and a Supporting Elements view (Figure 3).

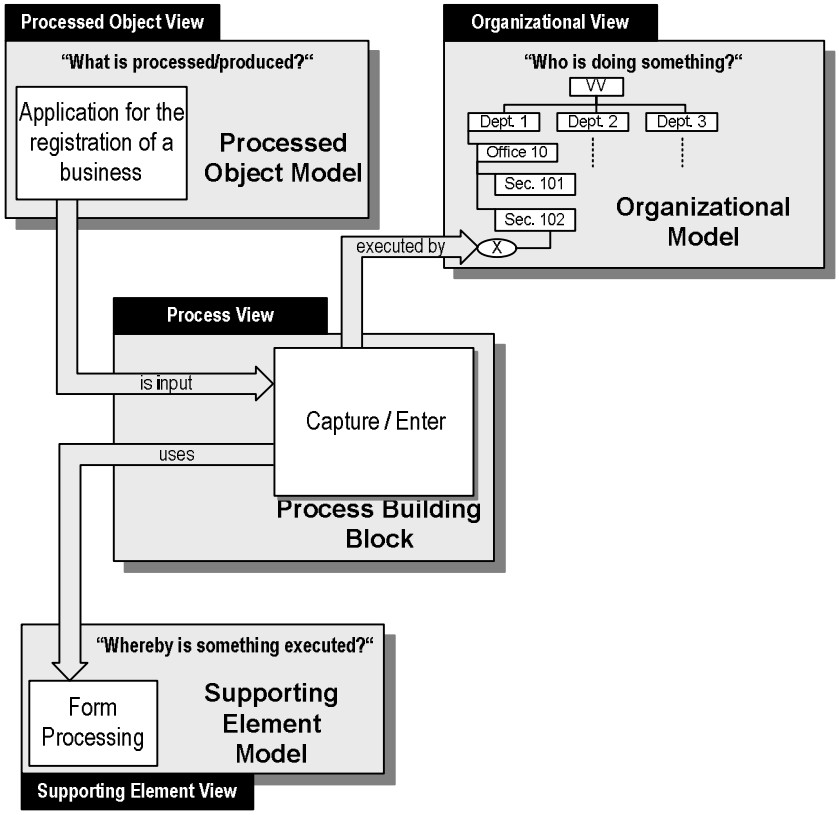



**Figure 3: PICTURE modeling methodology**

### 5.1.1. Organizational View

The organizational view depicts the organizational structure of a public administration. Thereby, it is possible to capture two aspects: who executes a process or part of a process, and who is responsible for a process.

Capturing the people who are involved in a certain process is central for further analysis as it builds the foundation for e.g. deriving personnel costs from specified processing time. Furthermore, capturing the organizational unit allows identifying processes with many organizational breaks.

The organizational view comprises the following elements:

Organizational Units: Organizational units encapsulate a number of positions with similar tasks. As most public administrations are organized in a functional manner units can be modeled hierarchically. Typical organizational units are departments or offices.

Positions: A position is responsible for performing a certain set of tasks. This set of tasks is constitutive for the position. Therefore, a position is an abstract concept, which exists independently of the persons assigned to the position. One or more persons can be assigned to a position and one person can be assigned to one or more positions. Each position is associated with its respective organizational unit.

Persons: A person depicts an actual official of a public administration. As described above, a person can be assigned to one or more positions. For further information please confer to Deliverables 4.3 and 4.7.

### 5.1.2. Processed Object Model

The Processed Object view describes "what" is dealt with and what is produced in the administrative processes. In administrative behavior, typically information from different information carriers is consumed and other information is produced, e.g. a paper form or an oral transmission. Besides information, in a few cases physical objects can be the subject of processing, e.g. car license plates that are invalidated. In order to capture this kind of information the modeling approach uses Processed Objects (PO). A Processed Object describes the information, document, message or any other object that is processed by the corresponding activity. Examples for POs are applications or permits. Deliverables 4.3 and 4.7 give a better insight.

### 5.1.3. Supporting Element View

In an analogous manner to the Processed Object view, the Supporting Element view describes objects, which support domain experts during their activities. Supporting Elements depict utilities that support an activity. They cover technical as well as physical information systems such as software services for e.g. document management or document archiving. A detailed concept of relevant ICT functionality groups has been published in Deliverable 2.6.

### 5.1.4. Process View

The Process view depicts the process structure of the public administration. Its core constructs are the Process Building Blocks (PBBs) which represent single activities within the process. Main principle of the modeling approach is the differentiation between activities (PBBs) and the respectively processed objects (POs, such as documents, messages, etc.). PBBs (e.g. <send>, <sign> and <print>) as well as POs (e.g. "application form" and "approval") can be specified in more detail by the modeler using respective attributes such as "processing time", "communication channel", "medium" (of documents), etc. Furthermore, PICTURE uses constructs such as Processes, Sub-Processes, Alternatives, and Connections to structure the process landscape of a public administration. The main elements "process" and "PBBs" are described in the following:

Process: In the modeling view of PICTURE a process consists of a combination of an object (e.g. a passport) and a specific action, which is performed on the object (e.g. to issue, to extend, or to change). Citizens or any other party inside or outside of a public administration can demand that object, (driver's license, passport etc.). A process consists of the activities (PBBs), which are necessary to perform a certain action (cf. Deliverable 4.7).

Most employees have relevant knowledge about many more processes than they actually execute. Collecting all this information from the employees corresponds to a "Model what you know" approach. The advantage of this approach is that only few employees have to be involved in a project to capture the desired processes. Following this approach every employee only describes what he or she is doing without stating any other information.

Process Building Blocks (PBBs): PBBs are an abstraction of administrational tasks and serve as common elements in many processes within PAs. A sample PBB is "Citizens' advice bureau receives an electronic application form by e-mail" which consists of different components: (1) the core activity ("to receive"), (2) the information object ("application form"), (3) the organizational unit ("citizens' advice bureau"), (4) the supporting information system ("e-mail") and (5) further attributes (medium of the information object is "electronic"). Standardized PBBs can be used to realize distributed model processes on common levels of detail and abstraction as well as on standardized semantics. Hence distributed model parts can be consistently plugged together resulting in a comprehensive, integrated, comparable and analyzable process model landscape. A

list of the extensively evaluated PBBs and their respective attributes are published in Deliverable 1.7 ("Process Building Block Specification").

Figure 4 shows an exemplary process being modeled in the PICTURE tool with PBBs (yellow boxes) as well as attributes for the PO.

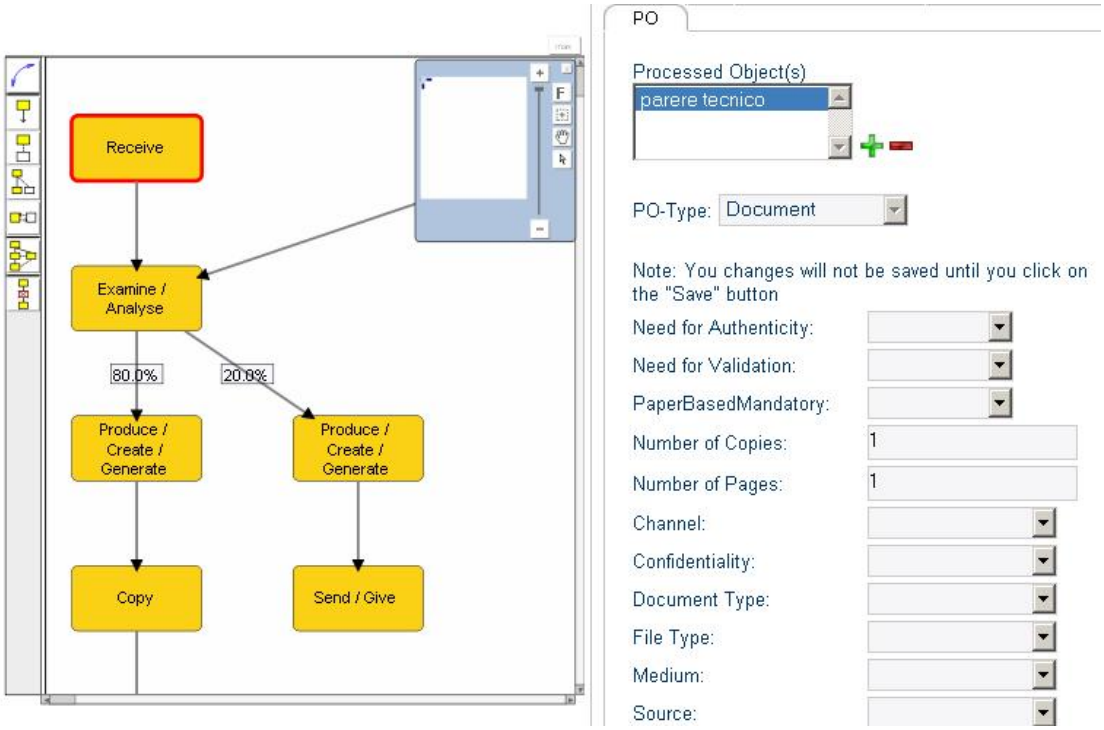



**Figure 4: Screenshot of the modeling module of the PICTURE tool**

### 5.2. Measure

Main objective of the measurement methodology is the analysis of the semantic, building block-based process models in order to identify potential supporting ICTs as well as to evaluate and quantify their impact on the process landscape of a public administration. The measurement part of the PICTURE approach gives answers to the following two questions:

- Which ICT functionality groups (ICT FGs) can contribute to reduce organizational and procedural inefficiencies?
- How will the introduction of an ICT have impact on the process landscape (including qualitative as well as quantitative aspects)?

Answering these questions implies a weakness-based approach, as in the first step ICT related inefficiencies have to be identified within the modeled process landscape of a public administration. Subsequently, positive but also negative impacts of ICT have to be analyzed in order to evaluate the effects from a qualitative and quantitative perspective.

#### 5.2.1. Methodological approach

Starting point for the measurement methodology is the process information formalized in respective models which are based on semantically standardized process building blocks (see section 5.1.4). The modeled semantics are the foundation for analyzing the process flow not only from a syntactical but also (in particular) from a semantic view. This enables a precise and automated identification of specified weaknesses, which is the first step of the developed

methodology.

In the second step, identified weaknesses can be related to deficiency-reducing or deficiency-eliminating ICTs. This step implies that the focus is set on weaknesses that can be addressed by ICT. Although the project indeed concentrated on ICT-related weaknesses, the generic methodology as such, also allows for the identification of non-ICT-related deficiencies.

Having identified a weakness and its related ICTs, the third step contains the linkage of potential impact which will be quantified in step four by considering specific characteristics, such as number of cases per year, sum of cycle times or sum of cost reduction. The whole approach is illustrated in Figure 5.

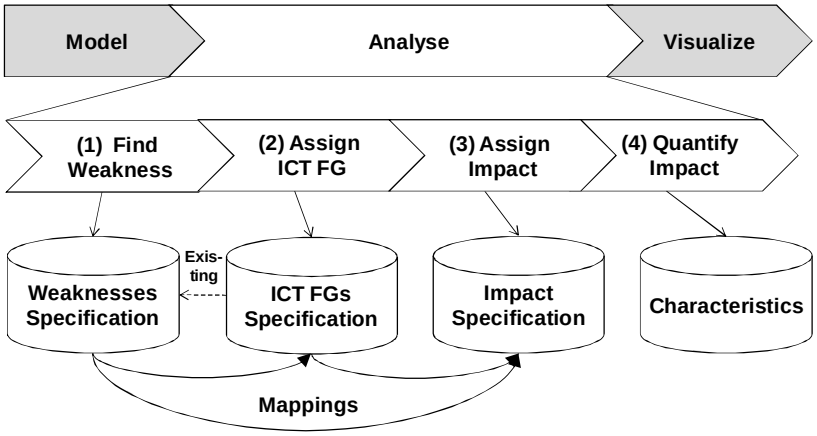



**Figure 5: Structure of the analysis approach**

If applied not only to one process but to the whole process landscape of a public administration this procedure delivers valuable information about

- existing weaknesses (in order to initiate and prioritize modernization projects),
- ICTs which enable reduction or elimination of the weaknesses (in order to conceptualize investment strategies for new ICT based on substantiated information),
- how the introduction of new ICT will impact the process landscape of a public administration (in order to provide information to decision makers and to support a holistic change process including organizational development).

The different steps of the methodology presented above are designed rather flexible in order to be customized to specific needs of a public administration. According to these steps, concrete process characteristics, weaknesses, ICT functionality groups (ICT FGs), and impact dimensions as well as their correlations had to be defined initially. A detailed description of the analysis approach can be found in Deliverable 3.8.

### 5.2.2. Measurement Example

Within the exemplary process sequence shown in Figure 7 two potential weaknesses can be identified. The first weakness is a media break represented by the PBB <Print>. The costs of this inefficiency can be well quantified based on the specified number of copies for this PBB, the specified number of pages of the respective PO, the probability of the process alternative and the number of process cases per period. Thus, an ICT FG that is able to avoid this media break would eliminate or reduce these costs. This example is limited to the description of a single

process. The described approach of process analysis requires semantic process modeling and analysis using weakness profiles that store the characteristic PBB and PO combinations representing a weakness.

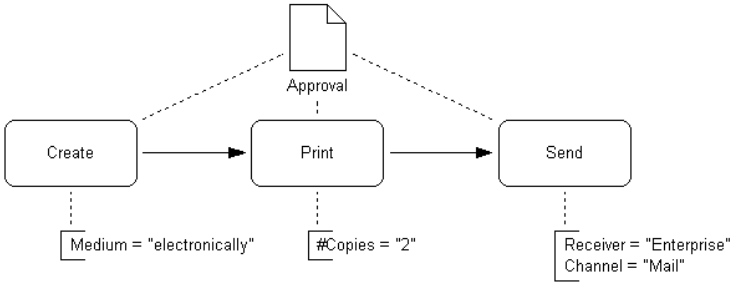



**Figure 6: Characteristic PBB sequence**

The reason for this media break is – in most cases – the second weakness recognizable within this sequence: the use of mail which is considered as an inefficient communication channel (since costs are high and transport times are long). This weakness can be identified by analyzing the attribute "communication channel" of the communication-related PBBs such as <Send|Give> and <Receive>.

Each defined weakness can be addressed by one or more ICT FG(s). The inefficient communication channel "mail" can be substituted by the more efficient communication channel "e-mail" using the respective ICT FG (provided this is legally permitted). This means: The ICT FG "e-mail" can be recommended to be introduced in the public administration. The impacts of this ICT FG can be quantified by transport time reduction which is an attribute of the communication-related PBBs (multiplied by the number of affected PBBs in the processes and the number of cases of the processes) and lower costs for the communication (postal charges, costs for paper and printing, etc. – also multiplied by the affected number of copies, pages, postal items, etc.). In this scenario, the inefficient (paper-based) communication channel is substituted by its digital counterpart. This suggests that the need for a paper-based PO – and the media break itself – is removed. Thus, a reduction of costs caused by the related media break can also be calculated for the impact analysis of an e-mail introduction.

### 5.3. Analyze and Visualize

Having defined a set of weakness profiles, the decision maker can run the analysis of the process landscape based on these profiles. As decision makers in public administrations have different information needs, the PICTURE tool provides several kinds of reports covering the specific requirements. These information needs are derived from the overall goal of having more and better data for decisions about IT investments and improvement of processes. Therefore, the final information displayed to the decision maker will always relate to one or several processes that are executed in the public administration. We distinguish two basically different information needs a decision maker has when starting the analysis:

- the decision maker intends to see the overall situation for the processes in a public administration with respect to weaknesses that can be improved through application of ICT and other re-organization measures or
- the decision maker intends to analyze the process landscape with a particular problem or ICT functionality in mind.

Starting from these entry points the user will then drill down further into the results until

reaching the report that provides the required information. Figure 7 shows the two alternative ways to gain information from the reports as stated above.

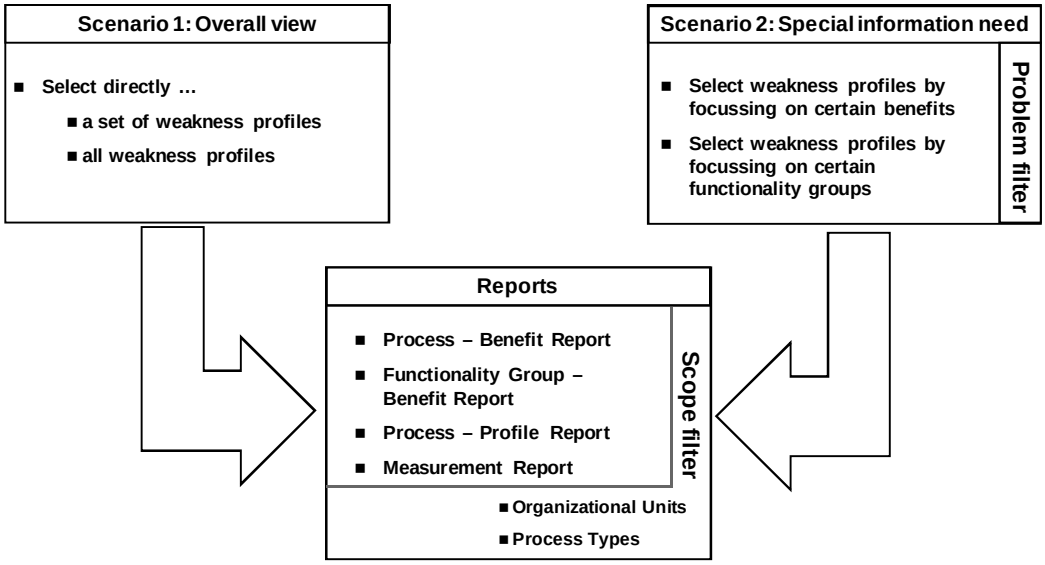



**Figure 7: From information need to detailed report**

In the first usage scenario the decision-maker wants to get the general overview about the situation in his public administration or in particular organizational units of it (see Scenario 1 in Figure 7). Therefore, the user can chose between single weakness profiles for which the processes should be analyzed or alternatively an analysis of the complete predefined profile set can be carried out.

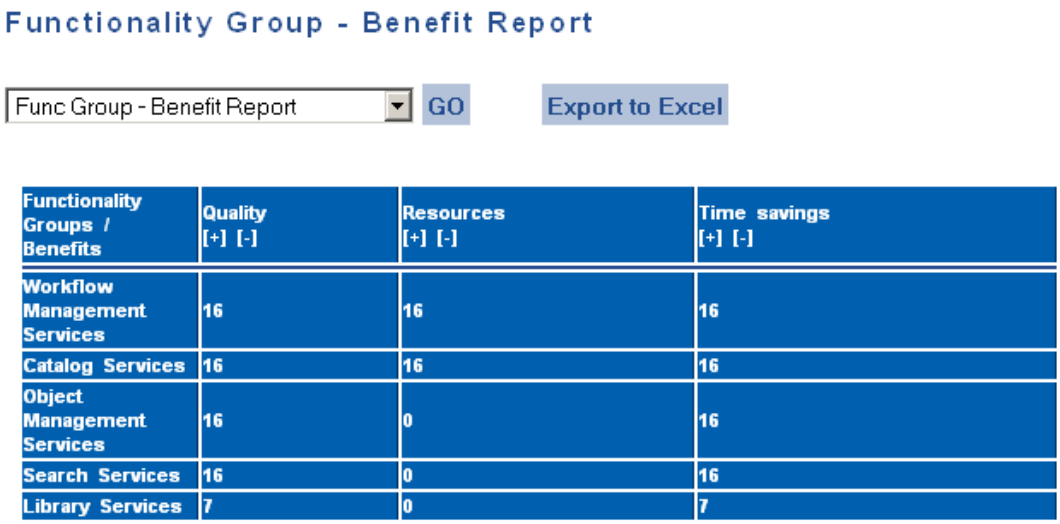
The second scenario (problem filter) supports a decision-maker who has a particular problem in mind, that needs to be addressed, a particular benefit that should be achieved or a particular ICT functionality group whose potential and impact on the processes should be evaluated (e.g. a functionality group proposed by the IT department or offered by a vendor). Therefore, this scenario does not present the overall impact situation of all weakness profiles but only a set of profiles that are related either to benefits or to functionality groups. Thus, the user either selects a particular benefit to be realized, respectively the problem to be addressed, or the particular ICT functionality to be analyzed with respect to potential benefits from its implementation. With this information the report is triggered and displayed to the user.

In the reports view that will be displayed after the user has made the selections, several types of reports are provided:

- Process – Benefit Report: shows for each process affected by one of the pre-selected weakness profiles the number of weakness profile occurrences related to benefits. The decision maker can derive from that report which processes have the highest potential for improvements for a certain benefit (e.g. faster process).
- Functionality Group – Benefit Report: for each functionality group the numbers of addressed weakness profiles related to benefits are shown, i.e. which functionality group will have the most beneficial impact on processes. For instance, if the IT department has suggested several ICT to be implemented the decision maker can check with the tool, how many processes and organizational units can benefit from this ICT. The information from this report also allows the decision maker to get an idea which ICT functionality group could be beneficial and should be evaluated in detail by the IT department (Figure

8).

- Process – Weakness Profile Report: shows for each process the number of weakness profile occurrences. The decision maker gets a comprehensive overview of weaknesses occurring in the overall process landscape.
- Measurement Report: shows for each process affected by one of the pre-selected weakness profiles the potential savings in quantifiable values such as time or resources (for each weakness profile). This report provides the decision maker with the measurement of the impact of ICT components (step "quantify impact").



Functionality Group - Benefit Report

Func Group - Benefit Report GO Export to Excel

| Functionality Groups / Benefits | Quality [+] [-] | Resources [+] [-] | Time savings [+] [-] |
|---|---|---|---|
| Workflow Management Services | 16 | 16 | 16 |
| Catalog Services | 16 | 16 | 16 |
| Object Management Services | 16 | 0 | 16 |
| Search Services | 16 | 0 | 16 |
| Library Services | 7 | 0 | 7 |

**Figure 8: Screenshot of a report of the PICTURE tool showing relevant ICT functionality groups with their impacts on different benefit dimensions: quality, resources, time savings**

## 6. Success stories - Impacts on Target Domain (Project Partner Municipalities)

This section documents some feedback on the application of the PICTURE approach in the municipalities participating in the project.

### 6.1. City of Amaroussion

The City of Amaroussion embraced the PICTURE tool and project as a whole by responding effectively to the several requirements of the project and in parallel by going in depth into the philosophy of the project. This was achieved through disseminating the project both internally and externally by actively informing and involving Municipal staff not only for merely modeling a certain number of processes as a deliverable, but also by reflecting on the project's final goal. In other words, the PICTURE methodology was seen in the mid-way as a potential valuable tool for facilitating and supporting the high-level decisions on ICT investment strategies.

In particular, during the PICTURE project the Municipal Technology Company of Amaroussion undertook the task to model 40 Municipal processes, 50% of which addressed the citizen for ensuring the provision of good services to the citizens and 50% of which were internal meaning that they were not directly extrovert ones. For the purposes of such an effort, core Municipal departments were involved, such as the top management, the Municipal Technology Company itself, the European and National Funding Office and the Management of Quality Office. Additionally, the processes that were chosen to be modeled and consequently to be 'measured' were drawn from various organizational units, so as to acquire a cross-departmental dimension of the process landscaping. Nonetheless, a multi-level approach was followed by involving top management internal actors to technicians.

Concluding, it is our belief that the PICTURE methodology may respond efficiently into the organization's context of pursuits which are among other things meeting the additional requirements in ICTs, promoting the implementation of new technologies and exploiting the possibilities they offer in the administration of local authorities and last but not least providing good and improved services to the citizen.

### 6.2. City of Lodz

The City of Lódz intends to raise awareness on PICTURE methodology at top-level management for process management topics.

During the 3 PICTURE workshops, clerks from Polish cities participated as follows:

- large city Lódz (750000 inhabitants)
- medium city Zgierz (58000 inh.)
- small cities:
    - Aleksandrów Lódzki (21000 inh.)
    - Ozorków (21000 inh)

As a result, the knowledge about the PICTURE methodology was disseminated around the Lódz region.

The great added value while using PICTURE-tool during workshops was:

- Acquirement of the knowledge about process-oriented structure of management (vs. functional approach),
- the innovative process modeling approach,
- dissemination of other modern methods used in PA management like New Public Management, Minimum Data Set approach, digital-era governance, citizen-centric approach and networked government.

Additionally, during the PICTURE workshops there were opportunities to discuss with clerks from the various cities about the current problems of PA management in their city halls:

- Traditional, paper-based documents are currently obligatory and there exists the necessity to make printed copies of documents. Hence the administration law should be changed. Problems mentioned above are very important and should be solved before using the PICTURE tool.
- Possibility of adaptation of the PICTURE process modeling methodology for improvement of the public administration unit management.
- All Polish City Halls have started exploitation of the e-Office systems (web technology citizen-office) in summer 2008. Although these systems are front-office class, they can not work in efficient way without suitable back-office information systems. Thus, PICTURE methodology could be very useful.

Finally, the workshops participants were consistent, that the idea and methodology of PICTURE-tool could be needed and useful in the decision-making process in order to buy a satisfactory software and hardware.

### 6.3. City of Muenster

The City of Münster has the vision of "Moderne Verwaltung Münster (MVM)". Key targets of missioning are:

- Better Services for the citizens of the City of Münster. Leading projects are EU-DLR (EU services directive) and electronic Passport. Not only departments involved in these fields showed interest in process modeling. For documentation and transparency of their own processes 212 processes altogether were modeled with PICTURE and used in more than 10 organizational units within the City of Münster.
- Optimizing of the Data-Exchange with other public authorities. Leading project is DataClearing NRW, a technical platform for secure Data-Exchange between public authorities based on Online-Secure-Communication-Interface (OSCI). PICTURE helps us to identify the use cases of DataClearing NRW.

Process management is an important base to generate a new E-Government compliant web presence, involved in good processes. Describing and analyzing processes with building blocks by the PICTURE method was a new and good experience. We will continue with process modeling in the future on an overview level.

The exchange with other interesting European cities and universities is a helpful experience. The participation in the PICTURE project provided an insight into new ideas of process management and the discussion of the deployment. Through the PICTURE project we achieve the sensitization of the top-management concerning the relevancy of process-modeling.

### 6.4. City of Turin

The City of Turin joined the Picture project in consideration of its long-standing experience and involvement in ICT development and advanced digital services to citizens and businesses.

Indeed, in the last decade the Municipality fostered a wide-ranged e-strategy and promoted, in cooperation with the Italian Ministry of Innovation and Technologies, an important multi-year e-government project aimed at providing services to citizens. Through that project the existing "Easy TORINO" e-card system evolved into "Easy Municipality", a new system through which hundreds of Municipalities support online service provision.

The enlargement and the improvement of the e-government services provided by the City imply high level investments in information systems and technologies to jointly improve the quality of the back-office activities.
The governance of the decision process on these investments, estimated to be around 30m € per year, is getting more and more complex and needs to be supported by appropriate tools.
This is one of the reasons why the City of Turin joined Picture. The project activities were taken in charge by the ICT Department, responsible for ICT strategies and investments of all the other Municipality Departments.
In particular the ICT Department is permanently pursuing the following "Picture related" goals:

- To deliver fast, accurate and innovative services both to citizen and to internal departments
- To optimize budget allocation, while decreasing resources
- To draw up an ICT investment yearly plan, according to City objectives
- To control outsourcers Service Level Agreement and contracts.

Part of these goals can gain helpful insight from the Picture methodology and tool, and the ICT Department management relies on them to enhance effectiveness and efficiency of the decision process.
To concretely implement the objectives of the participation in the Picture project, a set of relevant activities were carried out by the Administration:

- 15 questionnaires on ICT strategies were filled through interviews with Head of Departments and Managers, whose Departments cover around 60% of the Municipality personnel
- 12 officials of different Departments were actively involved in using and testing the Picture tool on the processes of their offices
- 40 processes were modeled and evaluated through the Picture tool
- a wide set of meetings and internal workshops were held to train the personnel on the Picture methodology.

Currently yet other processes, related to the procurement of HW/SW for Office automation applied within the ICT Department have been modeled and evaluated.
These activities are carried out as further experimentations in the perspective of a full integration of the Picture methodology in the decision-making process of the ICT Department.

### 6.5. City of Winterthur

The City of Winterthur aims to be a 'service champion' for its citizen. In times of New Public Management we see them as our valuable customers. Process management plays a key role to achieve these high goals in our eGovernment award-winning Swiss city. This improvement is one of the key targets for the IT-department of Winterthur (IDW). The participation in the PICTURE project served as a facilitator to build-up know how and to improve Winterthur's competencies in process management. It enabled a fruitful scientific exchange with universities and established contacts to other interesting European cities and public authorities.
The PICTURE method to describe and analyze processes with building blocks was a new and valuable experience for us. During the PICTURE project this method was used for 19 processes in more than 10 organizational units within the City of Winterthur. Parts of this work are now carried over to some of our further projects.
All in all the awareness for processes could be leveraged substantially in our administration through the PICTURE project. The attention of our top-level management for processes could be enhanced. We are planning some future projects to further profit from the newly gained knowledge, contacts with partners and management attention. In collaboration with the

University of St. Gallen we want to position our department as the strategic competence centre for processes management in the City of Winterthur.

## 7. Dissemination

The PICTURE project developed, evaluated and disseminated an instrument that supports public administrations to develop ICT investment strategies. The PICTURE consortium has undertaken several activities to disseminate project results. Consortium members participated in scientific conferences and disseminate the PICTURE approach on national, European, and international level in public administrations, industry, scientific community and the European Commission.

### 7.1. List of Workshops

- Evaluation Workshop - Winterthur (Switzerland) July 12, 2008
  Workshop for evaluation of the PICTURE methodology and tool.

- Polish Municipalities Workshop - Spala (Poland) June 20, 2008
  In the workshop participated 12 representatives from two different municipalities: 8 people from City of Lodz and 4 people from City of Zgierz.
  The event was divided into three main sessions:
  1. The first part was devoted to a general introductory lecture and to answering the most general questions;
  2. The second part was devoted to presentation of the tool, individual discussions with participants and realisation of their practical tasks;
  3. The third part was devoted to the fulfilment of questionnaires, preceded by a debate on specific matters.

  All opinion and suggestions collected during the workshop were then considered as a very valuable material for the further improvements of the tool.

- VPS (Virtual Post Office) and E-Government - Münster (Germany) June 11, 2008
  During a Roadshow (EGOV-Day) for KAAW (www.kaaw.de) (group of 25 municipalities located in the province of North Rhine-Westphalia) the PICTURE Project was presented to attendants who were interested in wide sections of PICTURE and the related project. They were informed about the possibility to benefit from the PICTURE-results.

- MEMO 2008 - Muenster (Germany) June 4- 5, 2008
  MEMO 2007 - Muenster (Germany) May 23-24, 2007
  MEMO 2006 - Muenster (Germany) May 31 – June 1, 2006
  The MEMO-Conference is a local event hosted by ERCIS. In 2006 and 2007 it was organized together with "Informationsbüro dNRW" a federal state-located eGovernment initiative with was funded by the European Commission. In 2008 the MEMO-Conference was organized together with "Deutscher Städte- und Gemeindebund" an umbrella group of German municipalities.
  The MEMO was initiated to address the increasing demand of public administrations in the field of eGovernment and reorganization concepts. While defining the topics of the conference, fair and presentation program we always had in mind that methods and tools were presented which directly can be used by the public administrations. So it was a necessary condition for a presentation that a tool or method was presented from to people, the developer on the one side and one user from a public administration on the other side.
  PICTURE was presented on every MEMO-conference. In the first year it was presented by our own in a separate presentation as we were at the beginning of the project. Around 40 people were attending the presentation. In 2007 a workshop integrated in the program of

MEMO was organized and held by ERCIS and SAP where we discussed the features of PICTURE methodology and the possibilities and potentials of PICTURE for process analysis. Around 25 people were attending the 3 hours workshop in 2008, PICTURE and an implementation of PICTURE was presented so that the users can see the working methodology. Around 60 people were attending the presentation of PICTURE in 2008.

- COM – citeq – Zentralausschuss - Münster (Germany) May 29, 2008
  Report on continuation and development of the PICTURE project.

- E-Government-Roadshow - Münster (Germany) May 15, 2008
  During this event for the KAI (www.kai-gruppe.de), a group of 39 municipalities located in the northern part of Germany citeq took the opportunity to inform about the PICTURE Project, especially about the idea, the method and the content of process building blocks. Citeq informed about process modeling with PICTURE, the impact measurement and about possibilities of evaluation of processes related to the predefined goals. The attendants will be kept up-to-date concerning the PICTURE project and the PICTURE results.

- Modeling Standards - Dortmund, (Germany) May 8, 2008
  Interested groups of KDV*-members discussed about modeling standards and verification of functional realization. At this meeting questions and feasible problems concerning standards, comparability of processes and the functional realization were evaluated. Results and experiences of the project up to now were delivered.

- COM – citeq – Arbeitsausschuss - Münster (Germany) April 16, 2008
  Report on continuation and development of the PICTURE project

- Local Government Workshop - Schneverdingen (Germany) April 2, 2008
  Presentation at the local government working group.

- Workshop for local domain experts - Bad Fallingbostel (Germany) April 2, 2008
  Workshop for the evaluation of the PICTURE modeling methodology and prototype, with domain experts.

- CeBIT 2008 - Hannover (Germany) March 4-9, 2008
  CeBIT 2007 - Hannover (Germany) March 15-21, 2007
  CeBIT 2006 - Hannover (Germany) March 9-15, 2006
  ERCIS is present on CeBIT –biggest IT-related fairs in Germany - since more than 5 years. Since the PICTURE-project is running, PICTURE is one central exhibit on our booth. Besides that in every year since 2006 ERCIS (in 2006 together with SAP) has held a PICTURE presentation in a forum series.

- COM – citeq – Zentralausschuss - Münster (Germany) November 8, 2007
  Besides the “Working Group” (www.citeq.de) the citeq management reports regularly to another council, the “Central Board” of the citeq. The members are the mayors or their deputies of more than 30 municipalities in the county of Münsterland. According to the periodical meeting the results, the state of work and application opportunities of the PICTURE project were reported to the decision makers. They are especially interested in those areas of PICTURE, which support reorganizing the processes. Joining the project evaluation is actually not possible for interested members, because they have a lack in resources especially in staff. Nonetheless they want to be informed furthermore about PICTURE and about an user convenient, productive tool in the field of PICTURE

application.

- COM – citeq – Arbeitsausschuss - Münster (Germany) October 10, 2007
  The citeq management reports periodically to the "citeq Working Group" (www.citeq.de) about the state of work and application opportunities. The members of this commission are the ICT representatives or IT co-ordinators of citeq customers of more than 30 municipalities in the county of Münsterland. Within the regularly terms the members were informed about the PICTURE project, the PICTURE idea and method and about the interim results. Discussions about details for instance like the Process Building Blocks, requirements to visualization of recorded processes etc. show the deep interest of the members. Most of the members are interested in process modeling, best practice processes and in support for the ICT decision process. They consider a practical, target-aimed tool as an important aspect concerning the realization of the PICTURE ideas.

- KomCom NRW - Essen (Germany) September 18-19, 2007
  KomCom is a series of fairs in different regions of Germany. Every year about 4 to 5 KomCom-events were held (KomCom Bavaria, North, East, NRW, and South). In 2007 ERCIS had an own booth at KomCom NRW in Essen. On the fair there is a combination of booths, workshops series and presentations. Beside the booth, we held two presentations to topics related to PICTURE (one dedicated PICTURE presentation, one presentation about the integration of Line of Business applications and how a methodology like PICTURE can support this). The fairs are mainly attended by local administrations staff which searching for new technologies for their daily business.

- Citeq Information Day - Münster (Germany) September 10, 2007
  At the citeq Information Day (open day) the customers of the citeq were informed about PICTURE and the PICTURE idea. Talks were held about a collective project evaluation. The City of Hamm indicated interest modeling processes with PICTURE in selected areas.

- KDV NRW Meeting (Steering Committee) - Bochum (Germany) February 12, 2007
  A lecture about the PICTURE project was held and about its progress was reported to process interested members. Especially the aspects of PICTURE and the PICTURE idea were discussed focussing on generating a central process register and enabling the comparability of processes.

- KDV NRW Meeting (Steering Committee) - Bochum (Germany) October 23, 2006
  The competence center digital administration (Kompetenzzentrum Digitale Verwaltung NRW, KDV NRW) was founded as a common institution of the counties and municipalities of NRW The intention is to initialize common E-Government projects of the counties and municipalities and the promotion of inter-municipality collaboration The inter-municipality collaboration in shared-services shall be enabled. The KDV NRW is no scientific or academic institution, but a coordination- and developmental center for E-Government from and for the municipal practice. During a recurrent meeting the Picture idea was presented to members of management group of the KDV, which are involved and interested in process modeling. Many of the attendants were deeply interested in information about the project and the corresponding activities. The aspects of PICTURE will be considered for the further work.

- PICTURE (Workshop) - Hagen (Germany) June 12, 2006
  As arranged in former workshops the method for process modeling with PICTURE, new methodical requirements, analysis objectives / attributes and key performance indicators, effort and benefits of process modeling with PICTURE were discussed. Some processes of

the city were respectively analyzed and approached for process modeling with PICTURE. The contribution at the evaluation of PICTURE by the City of Hagen was arranged.

- PICTURE (Workshop) - Hagen (Germany) May 26, 2006
  Based on a previous workshop and former contacts with some interested parties of the City of Hagen coherencies of the project, the PICTURE Idea and PICTURE approach were presented to a greater number of attendants at the City of Hagen and its ICT Service Provider HABIT. Some municipal domains manifest their intention to face up to the project within additional workshops.

- PICTURE (Workshop) - Germany February 15-16, 2006
  ERCIS and citeq presented PICTURE to local ICT service providers, 3 municipalities (Hagen, Dortmund, Mühlheim) and experts regarding distributed modeling from an industrial perspective (Challenge the idea). The interested cities were continuously informed about the progress and the actual evolutions of the project. These contacts led onto further workshops with the City of Hagen and its ICT Service Provider.

### 7.2. List of Attended Conferences

- 7th International EGOV Conference - Turin (Italy) August 31 – September 5, 2008
  The international EGOV Conference series gives annual state of the art overviews in eGovernment and eGovernance research, implementation and application. Thereby, the conference provides important guidance for research and development in this fast-moving domain of study. As part of the DEXA conference cluster, the annual EGOV conferences bring together leading researchers and professionals from all over the globe and from many disciplines. The 7th EGOV conference addressed various research topics in eGovernment, eGovernance, eParticipation and other fields of application in the public sector.
  The University of St. Gallen and SAP contributed a PICTURE paper named “A Methodology for ICT Impact Analysis Based on Semantic Process Models. Presenting the general PICTURE methodology, this paper focused on the potentials of semantic process modeling to create formalized process knowledge that enables identification of organizational deficiencies and appropriate support of ICT. The paper described the two core phases: semantic modeling of administrational processes (phase 1) and computer-assisted analysis of ICT impact (phase 2) based on a real-world example from the PICTURE project.

- Paper contribution and presentation at the European Conference on Electronic Government 2008 - Lausanne (Switzerland), July 10, 2008
  As governments seek to remodel and restyle their services, eGovernment continues to arouse interest and attention. New dynamic issues such as eDemocracy, eCitizenship, eIdentity and eVoting have become core elements in the development of public sector delivery. Vital questions have been posed which link technological development and a streamlining of government services to more social based values of inclusion, accessibility and power relationship ratios.
  WI-HSG contributed a paper about the transformation of public administrations. Foundation is a conceptual model describing characteristic elements of public administrations (such as organizational and procedural structures as well as supporting ICT addressed in PICTURE) and the specific interrelations between those elements. On the one hand, this conceptual model enables identification of relevant factors influencing transformation projects, and on the other hand it provides the basis for structuring the transformation process.

- 16th Polish EDI&Ecommerce conference - Rochna (Poland) June 10, 2008
  On the first day of the 16th Polish EDI&Ecommerce conference there was a session devoted to "Selected problems of administrative applications". During this session the presentation of Jörg Becker, Philipp Bergener, Łukasz Lis, Daniel Pfeiffer and Michael Räckers "Migrating process models between PICTURE and BPMN/EPC" was presented and discussed. The presenter - Łukasz Lis has stressed in his speech how much important is the possibility of such a migration and how numerous problems are connected with it. The presentation was followed be lively discussion.

- 16th European Conference on Information Systems (ECIS) - Galway (Ireland) June 9 - 11, 2008
  The European Conference on Information Systems (ECIS) is the largest and most prestigious Information Systems (IS) conference in Europe. The 16th ECIS was hosted by the Business Information Systems Group, Cairnes Graduate School of Business & Public Policy at the National University of Ireland, Galway. Out of 566 submissions 213 papers were accepted to be presented in the 16 dedicated track themes.
  SAP and University of St. Gallen contributed a PICTURE paper named "Towards Facilitated Reuse of Ontology Results from European Research Projects: A case study". The paper was presented as part of the track "Semantic Web and Information Systems". It addressed the challenge that a significant amount of results have been produced recently in the area of ontology research but such research results is hindered by different underlying meta-models, incompatible formalization and the limited availability of content. A framework that defines required information to enable accurate characterizations of ontology research results in an ontology library system is presented as an approach to address this issue.

- AK Digitales Rathaus (Digital Town-Hall) - Halle (Germany) April 24-/25, 2008
  PICTURE project and the PICTURE idea were presented to members of the Workgroup Digital Town-Hall (workgroup of Deutscher Städtetag, www.staedtetag.de), who are nationwide involved in process modeling. Attendants of this board realized the capability of the method and the idea for process modeling and process landscaping as basics for digital processes.

- Presentation and booth about the PICTURE project at the *Forum Verwaltung* within the *Telematiktage* Conference - Bern (Switzerland) March 4, 2008
  Since 11 years, *Telematiktage* are a well-known platform for industry-oriented ICT applications focusing on education, healthcare and public sector. The *Forum Verwaltung* addressed decision makers from local and federal governments in Switzerland. Main topic was the transformation from ICT projects towards public administration's reform and the contribution of new ICTs to quality and efficiency of service processes.
  WI-HSG and the City of Winterthur presented the PICTURE methodology as well as the tool to the audience (Powerpoint slides and prototype demonstration). Further details have been discussed with interested participants at the PICTURE booth.

- Vitako TaskForce EGovernment - Münster (Germany) February 27, 2008
  Presentation, reporting and discussion about PICTURE with members of the VITAKO (www.vitako.de), which are involved in process modeling and process optimization. Vitako is the nationwide community of municipal IT-Service Providers in Germany. At the moment 46 IT service provider of 13 provinces of Germany belong to this network. Within the federal community they exchange experiences, competences and strategies. Vitakobundles most of the Know-how of the municipal IT-service provider.

- Internationales Rechtsinformatik Symposium 2008 (IRIS2008) - Salzburg (Austria) February 21, 2008
  The International Legal Informatics Symposium (IRIS) took place at the Law Faculty of the University of Salzburg from 21-23 February 2008. Already being in its 11th year, IRIS has been established as the largest and most important academic conference on computers and law in Austria and Central Europe.

- eChallenges 2007 - The Hague (The Netherlands) October 24-26, 2007
  The eChallenges 2007 conference was the seventeenth in a series of annual technology research conferences supported by the European Commission, which regularly attracts over 600 delegates from leading commercial, government and research organizations around the world to share knowledge and experience, lessons learnt and good practice in areas of applied Information Communication Technologies (ICT).
  AP and IBM presented the PICTURE project at a demo booth in the exhibition area. Visitors could get information about the project consortium and the PICTURE methodology comprising a public administration specific process modeling methodology as well as a semi-automatic measurement of impact of cross-functional ICT. They also had the chance to get a first glimpse on the PICTURE prototype.

- KOMCOM NRW 2007 - Essen (Germany) September 18-19, 2007
  Also in 2007 citeq took part in some exhibits especially to perform the PICTURE method. New contacts were made with key-users of North Rhine-Westphalia, who were informed about PICTURE for the first time. The fare (www.komcom.de) was particularly used for appointments with representatives of municipalities discussing the results of the PICTURE project and the possibilities of joining the PICTURE evaluation. The process of advertising and informing will be continued.

- 15th European Conference on Information Systems (ECIS) - St. Gallen (Switzerland) June 6 – 9, 2007
  The European Conference on Information Systems (ECIS) 2007 was held in St. Gallen, Switzerland. The 15th ECIS was organized by the Institute of Information Management of the University of St. Gallen. Its theme was "Relevant rigour - rigorous relevance". The ECIS conference has started in the UK in 1993. It attracts IS researchers and programs in between computer science and business / economics. Information systems, the core theme of ECIS, are now acknowledged as important innovation drivers and sources of growth for companies, government and society.
  The conference was visited by 460 participants from 32 countries, the majority coming from European states. It offered 197 presentations in 66 sessions and seven panels during three days. The PICTURE panel was held on June 8, 2007, 08:45 – 10:15. It attracted 15 attendants besides the moderator and the panelists. This number is considered quite satisfying given the fact that the panel was held in parallel to ten other sessions.
  The goal of this panel was to discuss research and state-of-the-art in the field of business process redesign, to critically evaluate the PICTURE approach against accepted methodologies. Among these are reference process modeling and best practice adoption as well as alternative approaches for assessing and advancing process maturity.
- Workgroup Digital Town- Hall (Digitales Rathaus) - Hannover (Germany) April 23-24, 2007
  Within a conference of the board "Digitales Rathaus“ (www.staedtetag.de) the opportunity was used to spread the project to win a big circle of interested people especially for the PICTURE idea and the PICTURE method. The feedback was definitely positive. Interested attendants intended to follow the further project progress and activities.

- KOMCOM NORD 2007 - Hannover (Germany) February 27-28, 2007
  In 2007 citeq took part in this fare especially to present the PICTURE method. New promising contacts were made with nationwide key-users, who were informed about PICTURE for the first time. The fare (www.komcom.de) was particularly used for appointments with representatives of municipalities discussing the results of the PICTURE project and the possibilities of joining the PICTURE evaluation. The process of advertising and informing will be continued.

- KOMCOM NORD 2006 - Hannover (Germany) February 21-23, 2006
  Citeq participated at the public sector (KOMCOM, www.komcom.de) fare in Hannover with an own fare booth. At the fare the citeq booth staff promoted the PICTURE Idea and the PICTURE Project. There was a lively discussion and information exchange with interested visitors. New contacts were made and kept in touch in the further project progression due to a potentially common PICTURE evaluation.

### 7.3. List of Invited Talks

- Zgierz Meeting - Zgierz (Poland) August, 2008
  The results of PICTURE workshop (June 2008) were discussed. Four clerks from City Hall of Zgierz attended. The main problem: the possibilities of implementing PICTURE modeling tool in order to support of the social welfare management. There appeared the necessity of the clerks' familiarity at least with the basic knowledge of process modeling and data structure. During the discussion it was stressed, that user interface of PICTURE tool should be improved.

- eCH E-Government-Standards Expert group Meeting "Business Processes" - Bern (Switzerland) June 25, 2008
  The eCH E-Government-Standards is an association for professionals in the domain of e-Government in Switzerland. It is organized in several expert groups which are dealing with specific topics that are highly relevant for e-Government. Members of these groups are consultants in the public sector, academics, as well as employees of public administrations with an IT or business related background. SAP presented the overall PICTURE approach including a tool demo of the PICTURE prototype to members of the group "business processes" in June 2008.

- PICTURE Project Presentation - Münster (Germany) April 16, 2008
  Representatives of the GKD Paderborn (www.gkdpb.de) were informed about actual results of the PICTURE project and here especially about the evaluation of the PICTURE tool.

- 8th SAP Public Services Ecosystem Summit - Mannheim (Germany) February 12-14, 2008
  The SAP Public Services Ecosystem Summit is SAP's yearly event to exchange thoughts and ideas with public services partners from around the world. SAP presented the PICTURE methodology in a session in the Public Sector Management and Administration stream focusing on the value of Business Process Management and Enterprise SOA for public administrations. SAP also gave a brief demonstration of the PICTURE prototype.

- PICTURE Presentation - Münster (Germany) April 16, 2007
  For a group of employees of the GKD Paderborn (www.gkdpb.de), an IT service provider

for the public sector, a PICTURE presentation was realized at the citeq. For many data processing center and ICT service providers in the public sector the tools for process modeling and recording attract wide interest, in this case also to the attendants. Communication and talks were continued and lead to a further PICTURE evaluation appointment.

- City of Herford - Herford (Germany) December 6, 2006
  Based on contacts to members of the workshop-group "Zuständigkeitsfinder" (www.koopa.de) a presentation of the Picture idea took place for the in process modeling interested members. They were informed about the PICTURE idea and the PICTURE project. They were deeply interested in the presented topics and they agreed upon furtherrequests in case of potential need in more information.

- Various bilateral talks and presentations for public administrations in Switzerland and Germany as well as for private organizations (such as service providers)