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# Benchmarking study on municipal portals: A Survey of G2B-Services in European capitals and large cities

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**Abstract:** The EU Services Directive in mind, public administrations are transforming towards customer-oriented service providers. Consequently, the availability of G2B E-Services increases. To fulfil the requirements of the EU Services Directive, suppliers of public services have to realign their product and process organisation. As the implementation of the EU Services Directive by the end of 2009 is obligatory, a comparative summary on the improvements in the European Union is of interest. At present, a summary on the implementation status does not exist for European capitals and large cities. Thus, the paper presents the status quo by illustrating the results of a benchmarking survey. The survey analyses the offer of G2B e-Services in all 27 European capitals and all European cities with more than 500.000 habitants and it was done in 21 first EU-languages and in English as second language. Furthermore, the identified criteria for the survey provide a basis for a maturity model. The study is accomplished according to the “Procedural model for the Benchmarking of Service” – DIN PAS 1014 and is conducted with the “Mystery User” approach. The findings of the survey address academic research as well as administration practice in the context of E-Government.

## 1 Introduction

Public administrations are transforming towards customer-oriented service providers. As their target group, businesses are increasingly focused [HKN08]. Especially in the field of public services offered by cities and municipalities, e-Services are increasingly available. The Directive on services in the internal market also named as EU Services Directive [EU06] in mind, municipalities have to intensify their offer of eServices. First and foremost, formalities as well as procedures to start up and exercise a business must be reachable by electronic means and “from a distance”. The accessibility of individuals, data, programs and objects via internet requires target-oriented and efficient transactions of public administration procedures. Hence, aspects as optimisation of administrative processes, cost savings for the demanding business and bureaucracy dismantling are challenges for eGovernment resulting from these requirements. Having regard to the EU Services Directive, the research discipline “information systems” meets a challenge: Starting with conceptions of integrated product-process-models for eGovernment offerings over process optimization in municipal administration, to assistance of IT-based implementation of the requirement that demands the EU Services Directive.

Up to the time of executing this survey, the status quo of the implementation of municipal Government-to-Business (G2B) eServices in Europe has not yet been analysed. This report is bridging this gap by giving a structured overview to G2B e-Services offered by European capitals and large cities. The survey is conducted by the following working hypothesis:

1. Search functionalities in eGovernment web portals and their clear arrangement are minimum requirements, that are widely achieved
2. The naming of a central contact person for business in the communal portals and the establishment of central service hotlines to permanent accessibility of the public administration are not yet achieved
3. G2B eServices are limited to core services (e.g. registration of a business, construction permit). Advanced services (e.g. meta-services for forms, geographic information systems [GIS] data) are not yet extensively offered.
4. As municipal eServices portals can be classified by maturity levels, we assume that the maturity of the portals is still low.
5. The maturity levels are positive correlated with the positioning of the cities. According to this, the portal of a higher positioned city features a higher maturity level than a lower positioned city.

This report is structured as follows: First we sum up benchmarking approaches in e-Government. Additionally, we give an overview of existing studies concerning benchmarking eGovernment (Part 2). Then we give a detailed description of our methodological approach and research design (Part 3). Subsequently, the results of our research are presented and discussed (Part 4). The report closes with a summary and a discussion of further research questions.

## 2 Background and State-of-the-Art in research

### 2.1 EU-Services Directive – Requirements to e-Government

EU Member States are requested to implement laws and administrative instructions by the end of 2009 to fulfil the requirements of the EU Services Directive. The implementation of the directive aims at creating a single market for services within the EU. The main objective is represented by chapter 2 of the directive: administrative simplification for the benefit of businesses. According to that, the EU member states are requested to:

- examine the prevailing procedures and formalities for starting and practicing service activities for their simplicity and, if necessary, simplify them, (Article 5 – Simplification of procedures),
- provide for central contact partners, via which service providers are able to manage all processes and formalities within the framework of their service activity (Article 6 – Points of single contact),
- ensure that all processes and formalities can be managed remotely and electronically via the points of single contact or the responsible authority (Article 8 – Procedures by electronic means).

Therefore, public authorities are requested to align their organisation and processes concerning eServices according to the EU services directive.

The Gartner group defines eGovernment as “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet and new media.” More definitions are presented by [PS07] and [YS07].

The field of eGovernment is divided in the following four fields [Sc04]:

- ePublic Services
- eDemocracy, eParticipation
- eOrganisation
- eProduction Networks

Alternatively, the application field of eGovernment can be distinguished by the recipient of the public services. Thus, businesses, citizens and governments are identified as stakeholders for public services [GE03].

To analyse the municipal portals for G2B e-Services, the benchmarking method is applied. Benchmarking methods are belonging to the so called accompanying evaluation methods. Accompanying evaluation methods analyse continuously objectives and effects of activities. Moreover they give feedback in decision and execution processes [Sc04]. There exists a widely common definition of benchmarking in scientific literature [Ca94]. In the context of e-Government we follow the benchmarking definition of [He06]:

„eGovernment benchmarking means undertaking a review of comparative performance of e-government between nations or agencies“.

Benchmarking approaches can be specified with respect to the dimensions “perspective” and “object of comparison”. Thus, the dimension “perspective” in mind, we can differentiate between a retrospective quantitative view and a prospective qualitative view. Regarding to the “object of comparison”, there exist internal and external views. An internal benchmarking study focuses on comparison of organisational units inside of an administration.

However, an external benchmarking study can be accomplished horizontally (comparison of administrations belonging to the same national layer), vertically (comparison of administrations belonging to different national layers) or intra-sectoral (comparison of organisations belonging to different sectors) [He06]. For benchmarking government, the object of comparison is the relevant starting point in public administrations [GS00]. At this, the comparison between administrations towards their offered services is the main intended use of benchmarking studies in the public sector [TW96]. In summary, our study is a qualitative approach focusing ePublic Services for businesses. As our focus is on the analysis of administrations in European Capitals and large cities, the comparison is accomplished externally on a horizontally layer. Due to similar processes and products in the public administration area, a high comparableness is set.

## 2.2 Related studies

In the field of benchmarking e-Government services, there exist national as well as international studies focusing different aspects of e-Government. Table 1 gives a structured overview.

Year	Title / Title Translation	Organisation/Author	Thematic focus	Reference field (geogr.)	G2B
2007	Evaluation and Optimisation of municipal e-Government processes (in German)	Hach [Ha07]	Process systematisation and benefit analysis	National (Germany)	yes
2007	eGovernment – Opportunities for small and medium – sized businesses? (in German)	Slapio et al. [SKL07]	Business-related eGovernment processes from the point of view of the German Chamber of Industry and Commerce	National (Germany)	yes
2006	Europe-wide increasing availability of public e-Services (in German)	Capgemini [Ca06]	Europe-wide comparison of e-Services, 20 services as benchmarking criteria, analysis towards service categories and maturity levels	International (Europe)	yes
2004	Constitution of virtual local space – guidelines of e-Government	Schmidt [Sc04b]	Focus on a benefit analysis of eGovernment as a part of New Public Management	National. (Germany)	yes

2003	Benchmarking E-Government in Europe and the US	Graafland-Essers, Etedgui [GE03]	User Survey	Inter-/National (Europe)	yes
2003	E-Government for businesses: Survey on the implementation of business-oriented e-Government services in Baden-Württemberg 2003 (in German)	Fraunhofer Institut [FIS03]	Focus on business-related eGovernment services (The implementation is measured by 4 complexity levels)	National (Germany)	yes
2003	E-Government in municipalities (in German)	Kubicek, H, Wind, D. [KW03]	The authors do not accomplish a study, they overview studies from other sources concerning Nordrhein-Westfalen	National (Germany)	no
2002	BEGIX: Balanced E-Government-Index (in German)	Bertelsmann Stiftung [NN02]	Focus on self-entry and assessment of eGovernment services (reference index; level of implementation is measured by 5 categories)	National (Germany)	yes
2001	Benchmarking E-Government: A Global Perspective – Assessing the Progress of the UN Member States	United Nations Division for Public Economics and Public Administration; American Society for Public Administration [UN01]	Global eGovernment map focusing on approach, progress and application of e-Government in 190 UN member states to evaluate general conditions for e-Government. To do so, 2 methods are applied: a website survey and a statistical analysis of given ICT-infrastructures as well as human resources (final measure: "E-Government Index")	International (global)	no

Table 1: Benchmarking studies on eGovernment

Moreover, SCHUSTER [Sc03] overviews national and international surveys and studies on municipal services. At present, a Europe-wide comparative study on the implementation of B2G eServices does not exist. The study presented in this paper, aims for bridging this gap.

### 3 Methodological approach

#### 3.1. Procedural Model for Benchmarking services

The benchmarking study is accomplished methodologically according to the "Procedural model for the Benchmarking of Service" – DIN PAS 1014 [DIN01]. According to this, a benchmarking study is divided into four phases:

1. Conceptual design and planning phase (Creation of a formal frame for the study)
2. Survey phase (Review and schematic description of the observations using a scoring model and a list of criteria)

3. Analysis phase (Calculation of individual results, creation of graphic charts and deduction of significant results)
4. Realisation phase (Realisation of required improvements).

The accomplishment of the benchmarking study follows two methods of “Third-party Web Assessment” [He06], whereas the approach “mystery user” is applied in a first step. The principle of the “mystery user” approach indicates that an examiner puts itself in the role of a client that is demanding the municipal services. This approach is also named as “mystery shopping” [Wi98]. In the present case, the „mystery user“ approach is qualified to accomplish the survey, as the case of a competition-oriented benchmarking study is [St97] [Bö99]. Therefore, objectivity and realism are ensured. In a second step, another approach belonging to the “Third-Party Web Assessment” is applied: we use the “categorisation” according to HEEKS to, first, analyse presence and absence of defined services and web portal characteristics, and, second to do a classification according to a stage model rating [He06].

### **3.2 Scoring model for rating the results**

Our criteria catalogue consists widely of qualitative criteria [cp chapter 3.2]. In the academic discourse, the problem of an adequate quantification of qualitative criteria is widely discussed. However, the importance of qualitative criteria in moments of decision-making is beyond dispute. In the present case, the use of a scoring model is appropriate to rate the differences by the specifications of criteria [WKW95], [Wi07]. By default, a scoring model consists of the following phases [Wi07]:

1. Determination of the rating criteria
2. Weighting of the criteria
3. Description of the characteristics of alternatives
4. Rating of the characteristics of alternatives
5. Calculation of weighted points of an alternative
6. Accumulation of weighted points per alternative

A widely known problem is the choice of criteria and the determination of weights, as subjectivity is hard to handle [WKW95], [Wi07]. Our scoring approach follows the six steps described above.

#### *3.2.1 Determination of the rating criteria*

The study was accomplished analysing 25 criteria divided in 5 categories:

- Category 1: Search functionalities for G2B eServices
- Category 2: Clarity of eServices offered to businesses (overall view)



- Category 3: Contact partner services for businesses
- Category 4: Form services for businesses
- Category 5: Municipal G2B eServices

The choice of criteria is based on results of expert interviews as well as businesses interviews. Table 2 gives a detailed overview.

nr.	criteria	measurement units	weighting coefficient
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#### Category 1: Search functionalities for G2B eServices

1.	Does an official web portal for the considered city exist?	presence / specification	1
2.	Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist?	presence / specification	1
3.	Does the entry of search terms "economy" and / or "businesses" into the input field "search" lead to G2B eServices?	presence / specification	1
4.	Search path from the main portal to the overview of G2B eServices on the business portal.	Quantity	1

#### Category 2: Clarity of eServices offered to businesses (overall view)

5.	Does a dedicated web portal for economy or businesses exist?	presence / specification	2
6.	Is location information for businesses available?	presence / specification	1
7.	Are there photos (optical impressions by static pictures from the location) available?	presence / specification	1
8.	Are there video clips (optical impressions by dynamic pictures from the location) available?	presence / specification	1
9.	Is a geographic information system (GIS) available (web.gis-applications)?	presence / specification	2
10.	Is a forum (e.g. idea box, suggestion box, complaint box) available?	presence / specification	2

11.	Is a feedback possibility available?	presence / specification	2
12.	Is the portal available multilingual (the portal is available at least in 1 foreign language).	complexity level	3

#### Category 3: Contact partner services for businesses

13.	Is a central hotline for businesses to contact the administration available?	presence / specification	1
14.	Are central contact partner for businesses named?	presence / specification	2
15.	Are visible service guarantees for initial responses by the administration available?	time value	2

#### Category 4: Form services for businesses

16.	Are business-oriented form download services available?	presence / specification	2
17.	Are help functions for forms and procedures (e.g. completion support, check lists) available?	presence / specification	2
18.	Is digital signature for authentication embedded in the form management?	presence / specification	3
19.	Is application processing per form directly online available?	presence / specification	3
20.	Are the form services connected to external bodies? (e.g. country administration, state administration).	presence / specification	2

#### Category 5: Municipal G2B eServices

21.	Industrial real estate and commercial property - in which complexity level available on the business portal?	complexity level	3
22.	Services for founders of new businesses - in which complexity level available on the business portal?	complexity level	3

23.	Registration of a business - in which complexity level available on the business portal?	complexity level	3
24.	E-Tendering / E-placing - in which complexity level available on the business portal?	complexity level	3
25.	Other municipal business-oriented services - in which complexity level available on the business portal?	complexity level	3

Table 2: Criteria Catalogue for G2B eServices

As Category 5 consists of municipal G2B services, we give a short description of the particular services:

- Industrial real estate and commercial property: Industrial real estates and commercial properties comprise estates and buildings (including equipment) for commercial use. According to this, departments for communal business development provide municipal offers and information services for businesses.
- Services for founders of new businesses: Founding of new business means the realisation of self-employment. The founding of a new business starts with the entry in business operations and due to formal legal reasons with the registration of a business. Services for founders comprise: consulting, support programs, official registrations etc.
- Registration of a business: The registration of a business means the official registration of self-employment at the responsible authority.
- E-Tendering / E-placing: Public tendering is part of the procedure to allocate assignments. Hence, potential tenderers are invited to submit offers. These procedures are usually strongly standardised by legal frameworks.

### 3.2.2 Weighting of the criteria

As the analysed criteria do have different dimensions of importance, the point values are weighted according to their economic importance for businesses with the weighting coefficients 1 to 3:

- Coefficient 1: the economic importance of an eService for businesses is fundamental
- Coefficient 2: the economic importance of an eService for businesses is particular fundamental
- Coefficient 3: the economic importance of an eService for businesses is outstanding fundamental

The differentiation of the coefficients results from expert interviews as well as from interviews with businesses. So, a two-way interaction with clients has more economic value for a business than presented information. The weighting coefficients per criterion are added in Table 2.

### 3.2.3 Description of the characteristics of alternatives

The description of the characteristics of alternatives results from experts interviews. As mentioned before, a rest of subjectivity is unavoidable. Nevertheless our differentiating factors are defined in inter-subjective revisable way. Table 3 shows the criteria and the corresponding differentiating factors.

nr.	criteria	differentiating factors
1.	Does an official web portal for the considered city exist?	An official web portal for the city does exist  An official web portal for the city does not exist
2.	Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist?	There exists at least 1 link to a dedicated website for economy or businesses with bundled G2B eServices  There exists no link to a dedicated website for economy or businesses with bundled G2B eServices
3.	Does the entry of search terms "economy" and / or "businesses" into the input field "search" lead to G2B eServices?	Search terms "economy" and "businesses" are successful  Search terms "economy" or "businesses" are successful  Search terms are not successful
4.	Search path from the main portal to the overview of G2B eServices on the business portal.	1 click  2 clicks  >2 clicks
5.	Does a dedicated web portal for economy or businesses exist?	There exists at least 1 dedicated website for economy or businesses with bundled G2B eServices  There exists no dedicated website for economy or businesses with bundled G2B eServices
6.	Is location information for businesses available?	Location information for businesses is bundled available on the business portal  otherwise: Location information for businesses is available  otherwise

7.	Are there photos (optical impressions by static pictures from the location) available?	<p>&gt; 3 photos per page on 5 pages on the business portal available</p> <p>3 photos per page on 5 pages on the business portal available</p> <p>&lt; 3 photos per page on 5 pages on the business portal available</p>
8.	Are there video clips (optical impressions by dynamic pictures from the location) available?	<p>&gt; 1 video clip on the business portal available</p> <p>1 video clip on the business portal available</p> <p>otherwise</p>
9.	Is a geographic information system (GIS) available? (web.gis – applications).	<p>&gt; 3 indicator categories on the business portal</p> <p>city map with 3 indicator categories on the business portal</p> <p>&lt; 3 indicator categories on the business portal</p>
10.	Is a forum (e.g. idea box, suggestion box, complaint box) available?	<p>criterion fully available</p> <p>functionalities of the criterion are partly available</p> <p>criterion not available</p>
11.	Is a feedback possibility available?	<p>criterion fully available</p> <p>functionalities of the criterion are partly available</p> <p>criterion not available</p>
12.	Is the portal available multilingual (the portal is available at least in 1 foreign language)?	<p>complexity level 0: no eServices</p> <p>complexity level 1: Information</p> <p>complexity level 2: Download of files</p> <p>complexity level 3: Interaction (editing of forms und authentication)</p> <p>complexity level 4: Tracking</p> <p>complexity level 5: Transaction (complete online processing - admissions and payment included )</p>
13.	Is a central hotline for businesses to contact the administration available?	<p>hotline is available after 6 p.m. and/or during the weekend</p> <p>term "hotline" and a phone number are available on the business portal</p> <p>otherwise</p>

14.	Are central contact partner for businesses named?	Central contact partner with visible coordination competence are named on the business portal  Central contact partner without visible coordination competence are named on the business portal  Otherwise
15.	Are visible service guarantees for initial responses by the administration available?	response time - visible service guarantee - in less than 2 working days  otherwise: response time - visible service guarantee - within 2 working days  otherwise
16.	Are business-oriented form download services available?	Business-oriented form download services are available bundled on the business portal  Business-oriented form download services are available  Otherwise
17.	Are help functions for forms and procedures (e.g. completion support, check lists) available?	Help functions for forms and procedures are available bundled on the business portal  help functions are available for business-oriented forms  otherwise
18.	Is digital signature for authentication embedded in the form management?	criterion fully available (authentication and application is possible fully online)  authentication and application is possible partly online  criterion not available
19.	Is application processing per form directly online available?	Data Entries of businesses can directly processed on the business portal in >1 procedure  otherwise: Data Entries of businesses can directly processed on the business portal in 1 procedure  otherwise
20.	Are the form services connected to external bodies? (e.g. country administration, state administration)?	Links to external bodies for businesses are available bundled on the business portal  Links to external bodies for businesses are available  Otherwise

21.	Industrial real estate and commercial property - in which complexity level available on the business portal?	<p>complexity level 0: no eServices</p> <p>complexity level 1: Information</p> <p>complexity level 2: Download of files</p> <p>complexity level 3: Interaction (editing of forms und authentication)</p> <p>complexity level 4: Tracking</p> <p>complexity level 5: Transaction (complete online processing - admissions and payment included )</p>
22.	Services for founders of new businesses - in which complexity level available on the business portal?	<p>complexity level 0: no eServices</p> <p>complexity level 1: Information</p> <p>complexity level 2: Download of files</p> <p>complexity level 3: Interaction (editing of forms und authentication)</p> <p>complexity level 4: Tracking</p> <p>complexity level 5: Transaction (complete online processing - admissions and payment included )</p>
23.	Registration of a business - in which complexity level available on the business portal?	<p>complexity level 0: no eServices</p> <p>complexity level 1: Information</p> <p>complexity level 2: Download of files</p> <p>complexity level 3: Interaction (editing of forms und authentication)</p> <p>complexity level 4: Tracking</p> <p>complexity level 5: Transaction (complete online processing - admissions and payment included )</p>
24.	E-Tendering / E-placing - in which complexity level available on the business portal?	<p>complexity level 0: no eServices</p> <p>complexity level 1: Information</p> <p>complexity level 2: Download of files</p> <p>complexity level 3: Interaction (editing of forms und authentication)</p> <p>complexity level 4: Tracking</p> <p>complexity level 5: Transaction (complete online processing - admissions and payment included)</p>

25.	Other municipal business-oriented services - in which complexity level available on the business portal?	complexity level 0: no eServices complexity level 1: Information complexity level 2: Download of files complexity level 3: Interaction (editing of forms und authentication) complexity level 4: Tracking complexity level 5: Transaction (complete online processing - admissions and payment included)
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Table 3: Differentiating factors for the criteria catalogue

### 3.2.4 Rating of the characteristics of alternatives

As the different criteria have different types of characteristics, varied measurement indicators have to be applied. The different criteria were rated according to the following indicators:

- Time Value: Days until a defined service is reached or fulfilled
- Quantity: number of clicks until a defined service is reached
- Presence / specification: considering the concrete criterion, the rating is according to the following two schemata:  
 (A) no presence/no fulfilling = 0 points; presence/ fulfilling = 1 point and  
 (B) no presence/no fulfilling = 0 points; partial fulfilling = 1 point;  
 complete fulfilling = 2 points.
- Complexity Levels: Degree of implementation of a service reaching from 0 (no eServices) to 5 (Transaction)

Selected criteria are rated according to complexity levels [BM00], [FIS03] whereas the following specifications are possible:

Complexity Level 0: no *eServices* (for a certain service available)

Complexity Level 1: *Information* (on a certain service is available online)

Complexity Level 2: *Interaction* (download of files is available)

Complexity Level 3: *two-way interaction* (editing of forms and authentication is available)



Complexity Level 4: *online-tracking* (presentation of current time perspective and status of the proceedings or open steps until a process is completed)

Complexity Level 5: *Transaction* (complete online processing – admissions and payment included)

The measurements point for the complexity levels were given according to the complexity level that means e.g. a service in complexity level 4 is calculated with 4 points for the considered city.

### *3.2.5 Calculation and accumulation of weighted points per alternative*

The determined points were transferred in an evaluation matrix. Hence, after rating and weighting the criteria, the total of points for each city can be calculated. With respect to the space of time of the study, the city with the highest total of points has the best online portal concerning quantity and quality of G2B eServices.

## **3.3 Maturity Model approach**

### **3.3.1 Background**

Maturity models are known approaches to describe the characteristics of organisations (mostly businesses) in different evolution levels [Wi07]. At this, the maturity of processes or maturity of capability is focused. FRASER ET AL. give an overview on existing maturity model approaches for different application domains [FGM02]. A widely accepted maturity model is the so called Business Process Maturity Model [NN08a]. Usually, a maturity model consists of 5 levels, whereas the highest level represents “Good Practice” respectively “Best Practice” [FGM02]. The lower levels characterise organisations in interim states. That means these processes or capabilities do have improvement potentials. Businesses apply maturity models rather to identify improvement potentials than to a power measurement [Wi07]. For the field of eGovernment, a special maturity model has been developed [NN08b].

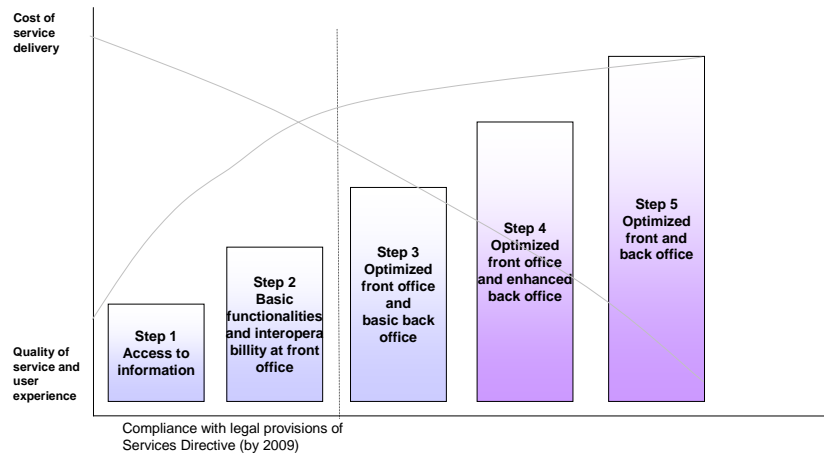


Figure 1: Maturity Model for E-Government

This model focuses explicit the requirements of the EU-Services Directive, whereas Steps 1 and 2 have to be technologically implemented by the end of 2009. The model shown in Figure 1 consists of 5 maturity levels [NN08b]:

- *Step 1:* focuses article 7.3 of the Directive. According to this, Member States have to ensure access to information by electronic means,
- *Step 2:* focuses article 8.1 of the Directive. So, businesses should be able to handle all procedures and formalities by electronic means,
- *Step 3:* focuses aspects beyond the legal requirements of the Directive. Goal is here an optimized front office and a basically structured back office (e.g. implementation of a service-oriented architecture [SOA] for a substantial customer relationship management),
- *Step 4:* focuses on an improved back office (e.g. introduction of an electronic registry for authorities),
- *Step 5:* focuses on reaching an optimized front office as well as optimized back office (e.g. using semantic technologies and performance management tools to monitor processes).

### 3.3.2 Adapted maturity model

For showing the maturity levels of the G2B portals, we adapted the generic model presented in chapter 3.3.1 as follows. As the complexity levels of services represent a consequential analogy to the maturity model, we first extended the model with level/step 0. Then, we decided that according to our evaluation method “third party web assessment”, only the levels 0 to 3 can be rated (cp. Figure 2).

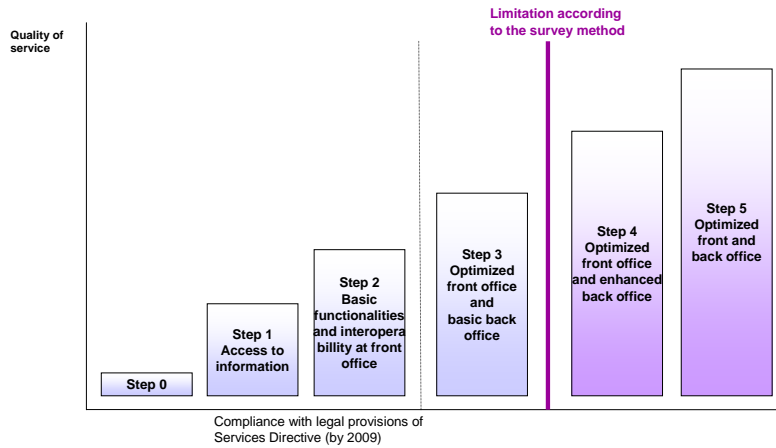


Figure 2: Adapted Maturity Model

According to WILKE we allocated our criteria to the different levels to determine the levels by certain characteristics. The levels are determined as follows (cp. Figure 3):

Maturity Level 0	"Must" Criteria for Maturity Level 1	"Must" Criteria for Maturity Level 2	"Must" Criteria for Maturity Level 3
	<p>Does an official web portal for the considered city exist?</p> <p>Does the entry of search terms "economy" and / or "businesses" into the input field "search" lead to G2B eServices?</p> <p>Is location information for businesses available?</p> <p>Are central contact partner for businesses named?</p> <p><b>Complexity Level 1:</b> Multilingual Industrial real estate and commercial property Services for founders of new businesses Registration of a business E-Tendering / E-placing Other municipal business-oriented services</p>	<p>Does a dedicated web portal for economy or businesses exist?</p> <p>Is a central hotline for businesses to contact the administration available?</p> <p>Are business-oriented form download services available?</p> <p>Is a forum (e.g. idea box, suggestion box, complaint box) available?</p> <p><b>Complexity Level 2 and 3:</b> Multilingual Industrial real estate and commercial property Services for founders of new businesses Registration of a business E-Tendering / E-placing Other municipal business-oriented services</p>	<p>Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist?</p> <p>Search path (&lt;= 2 clicks) from the main portal to the overview of G2B eServices on the business portal</p> <p>Is a feedback possibility available?</p> <p>Are there photos (optical impressions by static pictures from the location) available?</p> <p>Are there video clips (optical impressions by dynamic pictures from the location) available?</p> <p>Is a geographic information system (GIS) available? (web.gis - applications)</p> <p>Are visible service guarantees for initial responses by the administration available?</p> <p>Are help functions for forms and procedures (e.g. completion support, check lists) available?</p> <p>Is digital signature for authentication embedded in the form management?</p> <p>Is application processing per form directly online available?</p> <p>Are the form services connected to external bodies? (e.g. country administration, state administration)</p> <p><b>Complexity Level 4 and 5</b> Multilingual Industrial real estate and commercial property Services for founders of new businesses Registration of a business E-Tendering / E-placing Other municipal business-oriented services</p>

Figure 3: Maturity level determination

For a classification according to Maturity Level 1, a portal has to fulfil 80 % of the basic criteria (criteria 1, 3, 6, 14) and of the criteria 12 as well as 21-25 in complexity Level 1. For a classification according to Maturity Level 2, a portal has to fulfil 80 % of the basic criteria (criteria 5, 10, 13, 16) and of the criteria 12 as well as 21-25 in complexity Level 2 or 3. To reach Maturity Level 3, a portal has to fulfil (besides the criteria for Level 1 and 2) 33% (as these requirements go further than the EU Service Directive) of the criteria 2, 4, 7, 8, 9, 11, 15, 17, 18, 19, 20 and of the criteria 12 as well as 21-25 in complexity level 4 or 5. According to this classification, a rating for the cities can be accomplished.

## 4 Results of the study

### 4.1 Structure of the sample and data evaluation

The research and analysis method described above was applied to all European capitals and all European large cities with more than 500.000 inhabitants [NN08c] in October 2008. According to this, the main unit for the study comprises 27 European capitals and additionally 36 large cities, in total 63 cities. Thereby, some of the capitals have more than 500.000 habitants. The selection of cities is done against the background of businesses tending to locate in capitals and large cities rather than in rural areas [MP07]. Focussing Capitals and large cities, G2B eServices concerning a large amount of businesses are analysed. Table 4 shows the analysed cities in alphabetical order (characterised, if the considered city is a capital and / or a large city).

City	EU Capital	Large City (> 500.000 habitants)
Amsterdam	yes	yes
Athina	yes	yes
Barcelona	no	yes
Berlin	yes	yes
Birmingham	no	yes
Bordeaux	no	yes
Bratislava	yes	no
Bremen	no	yes
Bruxelles	yes	yes
Bucuresti	yes	yes
Budapest	yes	yes

Dortmund	no	yes
Dublin	yes	yes
Düsseldorf	no	yes
Essen	no	yes
Frankfurt am Main	no	yes
Genova	no	yes
Glasgow	no	yes
Hamburg	no	yes
Hannover	no	yes
Helsinki	yes	yes
København	yes	yes
Köln	no	yes
Krakow	no	yes
Leeds	no	yes
Lefkosia	yes	no
Lille	no	yes
Lisboa	yes	yes
Ljubljana	yes	no
Lodz	no	yes
London	yes	yes
Luxembourg	yes	no
Lyon	no	yes
Madrid	yes	yes
Málaga	no	yes
Marseille	no	yes
Milano	no	yes
München	no	yes

Nantes	no	yes
Napoli	no	yes
Nice	no	yes
Palermo	no	yes
Paris	yes	yes
Poznan	no	yes
Praha	yes	yes
Riga	yes	yes
Roma	yes	yes
Rotterdam	no	yes
Sevilla	no	yes
Sheffield	no	yes
Sofia	yes	yes
Stockholm	yes	yes
Stuttgart	no	yes
Tallinn	yes	no
Torino	no	yes
Toulouse	no	yes
Valencia	no	yes
Valetta	yes	no
Vilnius	yes	yes
Warszawa	yes	yes
Wien	yes	yes
Wroclaw	no	yes
Zaragoza	no	yes

Table 4: European Capitals and large cities

Starting point for each analysis was the main portal of a municipality, visited via {name of city}.countrycode (main page). On the basis of the criteria catalogue, free accessible city portals were analysed. To avoid misunderstandings founded in language problems, the studies for the different cities were accomplished by native speakers and sworn graduated interpreters and translators in all 21 different languages. Figure 4 shows the distribution of the different languages to the analysed portals:

<b>Overview of first languages:</b>		
1. language	Bulgarian	1 portal
2. language	Danish	1 portal
3. language	German	12 portals
4. language	English	7 portals
5. language	Estonian	1 portal
6. language	Finnish	1 portal
7. language	French	10 portals
8. language	Greek	2 portals
9. language	Dutch	2 portals
10. language	Italian	6 portals
11. language	Letvian	1 portal
12. language	Lithuanian	1 portal
13. language	Polish	5 portals
14. language	Portuguese	1 portal
15. language	Romanian	1 portal
16. language	Swedish	1 portal
17. language	Slovakian	1 portal
18. language	Slovenian	1 portal
19. language	Spanish	6 portals
20. language	Czech	1 portal
21. language	Hungarian	1 portal
	<u>total</u>	<u>63 portals</u>

Qualification of portal analysts: native speakers  
and sworn graduated interpreters and translators

Figure 4: Overview of first languages in the sample

The EU Services Directive in mind, we also analysed, if municipalities also offer the same range of eServices in more languages than the mother languages. While we identified a heterogeneous field of, first, the quantity of second languages offered, and, second, the quality of the eServices offered in second languages, we were able to identify 38 cities offering their services in English as second language.

According to the principles of the “third party web assessment” method, no contact with the municipalities by telephone or by mail has been established. No coordination or call-back was done to guarantee objectivity. According to this, only these portal offers were considered, that were externally free accessible and hence usable for the target group businesses.

#### 4.2 Presentation and discussion of the results

As 43 of the portals offer their services at least in one foreign language, an overview of the offered second language is in interest. Figure 5 shows the distribution of the second languages found during the study.

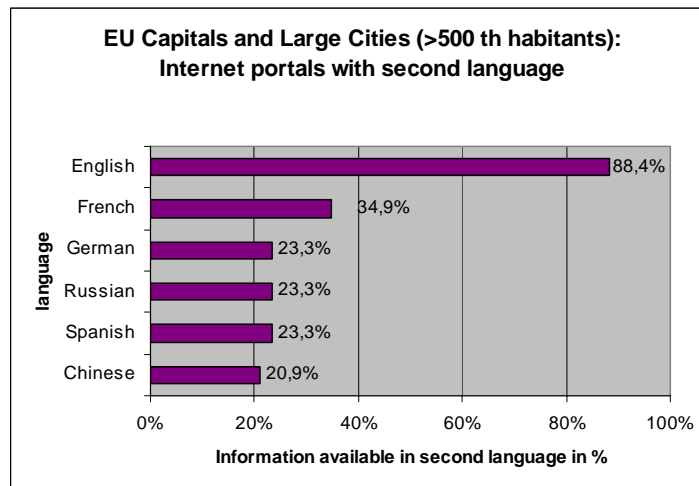


Figure 5: Distribution of second languages in the portals

As English represents the majority with nearly 90 %, an additional analysis of the portals with offers in English is obvious.

##### 4.2.1 Category 1: Search functionalities for G2B eServices

In the first category, we state that for the first language service offerings, that only one city does not have an official web portal (criterion 1). Considering criterion 2 (link functionalities) 79, 4 % of the portals do completely fulfil this criterion. Also criterion 3 and criterion 4 are widely fulfilled by the portals (73 % respectively 65,1 %). The results for the portal offers in second language English are similar.

##### 4.2.2 Category 2: Clarity of eServices offered to businesses (overall view)

In this category, we can assume, that 76, 2 % of the cities offer a dedicated web portal for G2B eServices (68, 4 % second language) as shown in Figure 6.



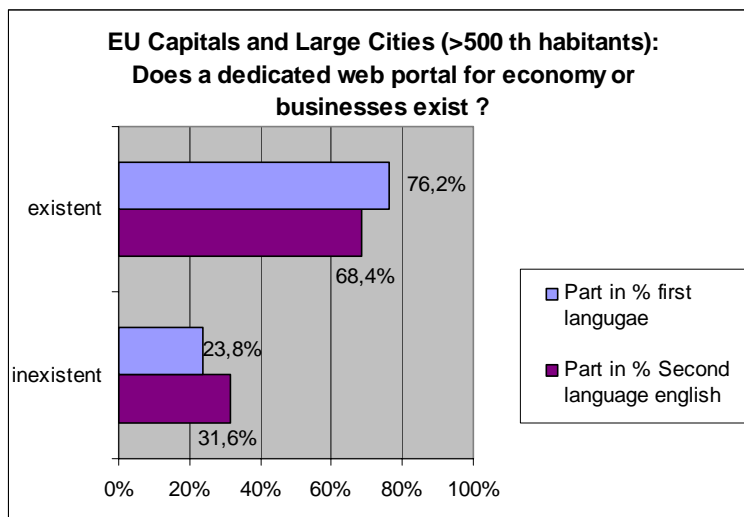


Figure 6: Existence of dedicated web portals for businesses

The lack of existence of a dedicated web portal results in uncomfortable navigation through the portals.

Fully location information services are provided by more than half of the cities (54 %). However, multimedia services (criterion 7 and 8) are not widely provided (73 % of the cities do not provide photos and 88,9 % of the cities do not provide video clips). Additionally, the results for GIS-Services (geographic information systems) show particularly results: either a municipality offers full GIS-services (22,2 %) or no GIS services at all (77,8 %). 60,3 % of the portals give their costumers the possibility to leave comments in a forum, and 22,2 % offer (also) other feedback instruments. For all detailed criteria, the results for the second language offers are similar.

#### 4.2.3 Category 3: Contact partner services for businesses

In this category, we can assume that half of the portals (49,2 %) offer a partly or full service concerning the criterion “central hotline”, 42,1 % of the portals in English as second language do so. Only 6,3 % of the central hotlines are reachable after 6 p.m. or during the weekend. Central contact partners are named in 28,6 % of the portals (26,3 % in second language portals). Visible service guarantees are given in 3,2 % of the portals in the first language and 0 % of the second language offers.

#### 4.2.4 Category 4: Form services for businesses

The form services are neither in first language portals nor in second language portals widely matured. Form downloading services as basic services, are available in 46 % of the first language portals (5,3 % in second language portals).

The progressive services (criteria 17-20) are widely not distinctive available. So, help functions are not available in 84,1 % of the portals (100 % in second language portals), digital signature is not offered in 81 % (100 % in second language portals), application processing is not available in 85,7 % (100 % in second language portals) and connecting from form services to external bodies is not available in 88,9 % of the portals (97,4 % in second language portals).

To assume the results for the categories 1- 4 shown above,

Figure 7 gives an overview of the reached points per category (cp. Annex 1).

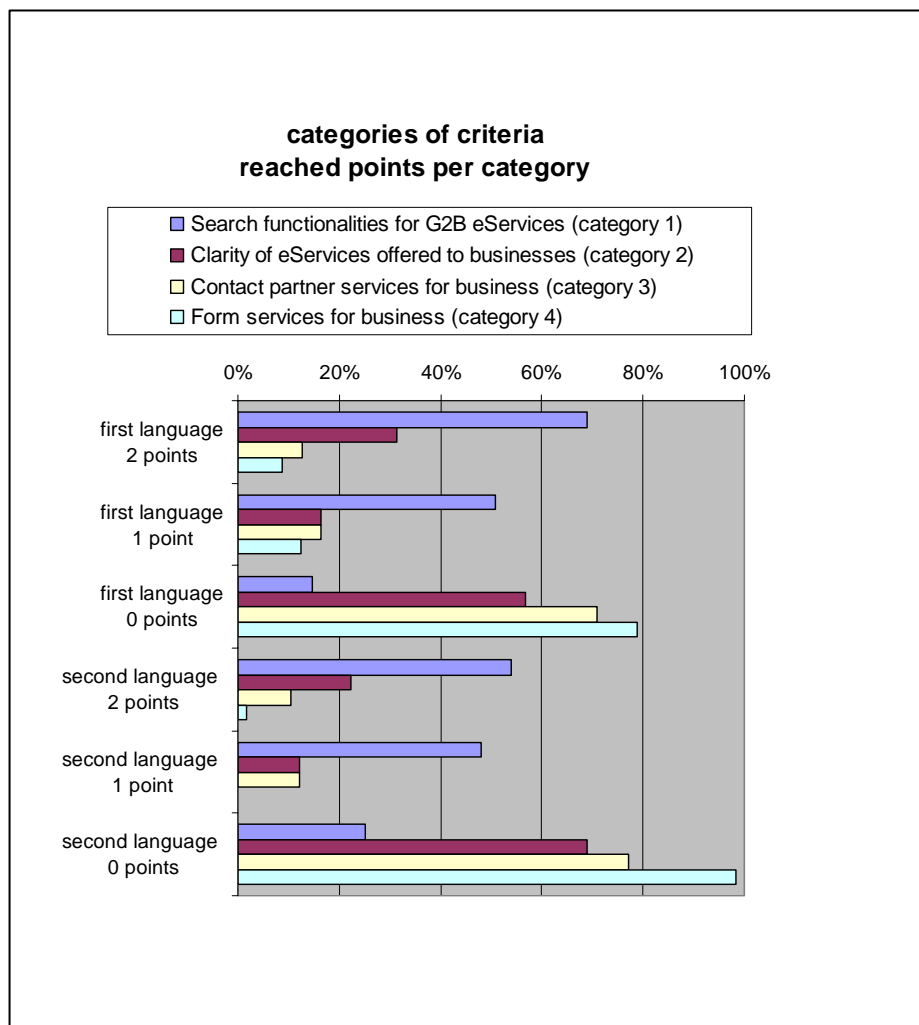


Figure 7: Overview of reached points per category

#### 4.2.5 Category 5: Municipal G2B eServices

For the municipal G2B eServices we can assume that 27,94 % of the portals (67,89 % in second language) do not offer information services as required by the EU Services Directive. Complexity Level 2 (Download) is only fulfilled by 34,92 % of the portals (10 % in second language). Interaction is only available in 7,94 % of the portals available. Figure 8 shows the overall results:

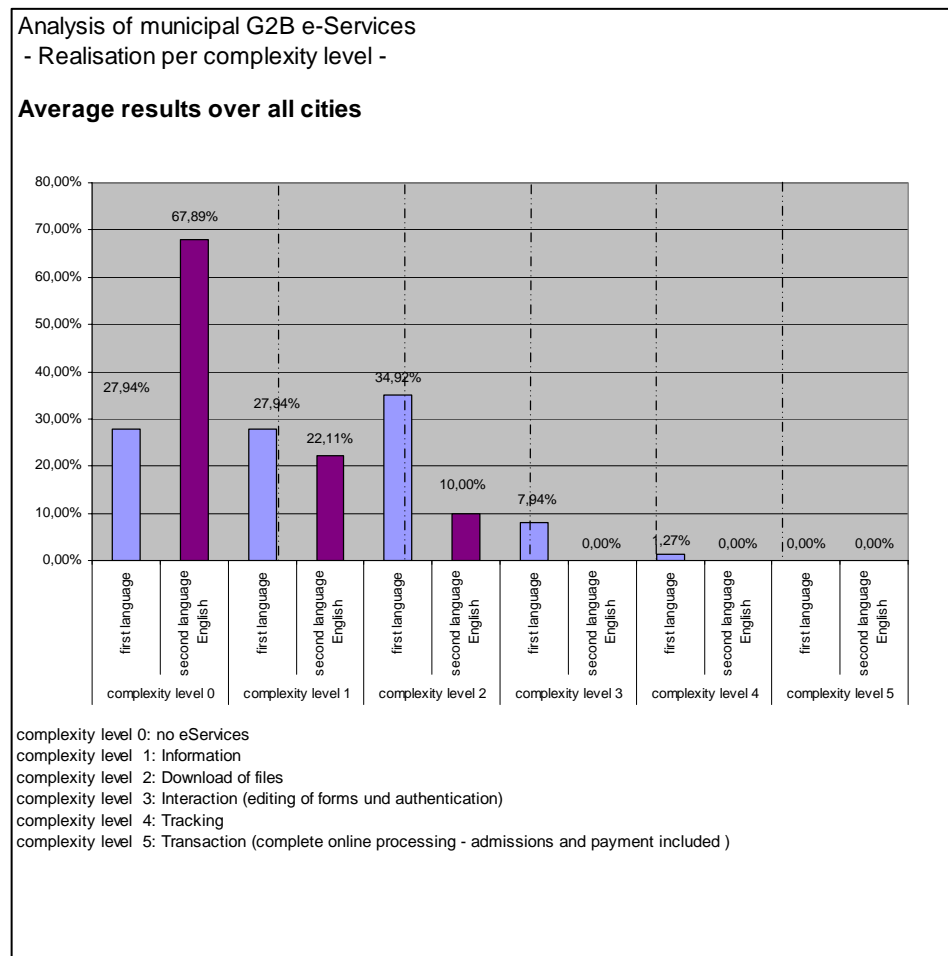


Figure 8: Overall results of category 5: G2B eServices according to first/ second language offers

The detailed results for the municipal services are described subsequently.

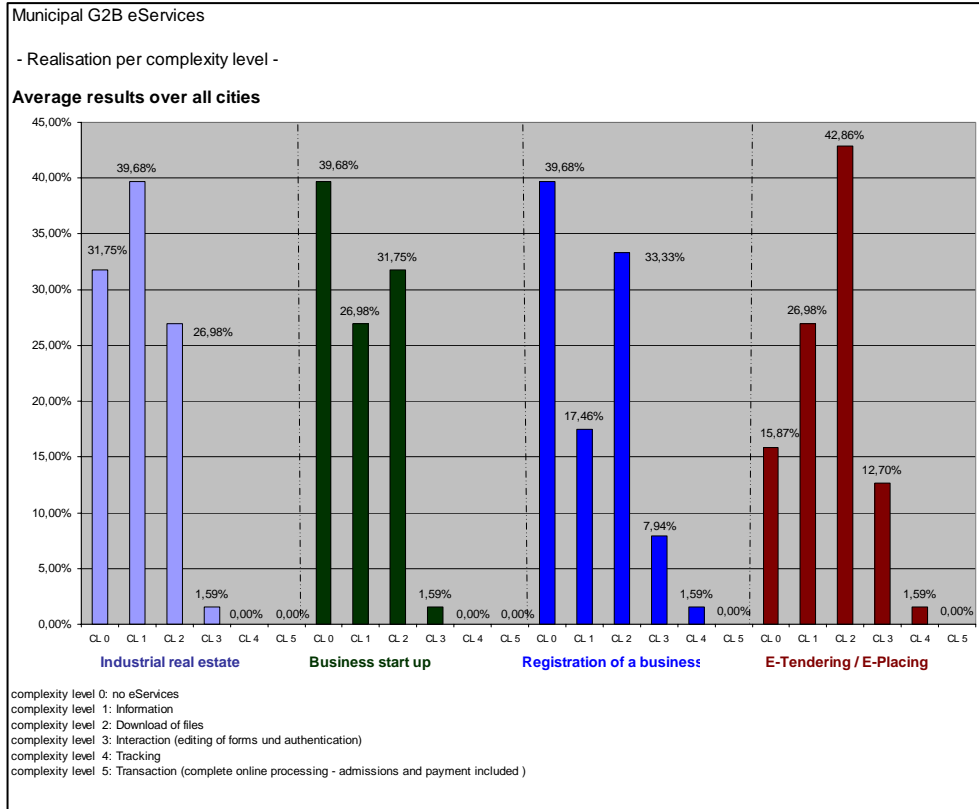


Figure 9: Complexity levels for four municipal services

As shown in Figure 9, the most developed offers are available for “E-Tendering” services. Concerning the services “Industrial real estate and commercial property”, “Services for founders of news businesses” and “Registration of a business”, in 31,75 % to 39,68 % of the portals are no eServices available at all. The availability of services in the complexity levels 3 to 5 are marginal available. Exceptional are the services “Registration of a business” with 7,94 % offers in complexity level 3 and “E-Tendering” offered on 12,7 % of the portals.

#### 4.3 Positioning of cities over all criteria

The results of the study can be subsumed to the following positioning of all cities in their first language portal (cp. Table 5):

<u>Positioning</u>	<u>City</u>	<u>Points</u> <u>(of max. 150)</u>	<u>language</u>
1	Berlin	85	German
2	Wien	83	German
3	Düsseldorf	78	German
4	Dortmund	74	German
5	Amsterdam	67	Dutch
6	Praha	66	Czech
7	Hannover	65	German
8	Essen	62	German
8	Frankfurt am Main	62	German
10	Bremen	61	German
11	Hamburg	60	German
12	Barcelona	58	Spanish
13	München	57	German
13	Stuttgart	57	German
15	Paris	56	French
16	Birmingham	53	English
16	Köln	53	German
16	Stockholm	53	Swedish
19	Bratislava	50	Slovakian
20	Sheffield	49	English
21	København	48	Danish
21	Krakow	48	Polish
21	Warszawa	48	Polish
21	Wroclaw	48	Polish
25	Bordeaux	46	French
26	Leeds	45	English
26	Tallinn	45	Estonian
28	Lodz	40	Polish
28	Sevilla	40	Spanish
30	Madrid	39	Spanish
31	Dublin	38	English
31	Luxembourg	38	French
33	Helsinki	37	Finish
33	Rotterdam	37	Dutch
33	Vilnius	37	Lithuanian
36	Poznan	36	Polish
37	Glasgow	35	English
37	London	35	English
39	Torino	34	Italian

40	Riga	33	Lithuanian
41	Genova	32	Italian
42	Ljubljana	30	Slovakian
42	Napoli	30	Italian
44	Lyon	29	French
45	Bruxelles / Brussel	28	French
45	Lisboa	28	Portuguese
47	Lille	27	French
47	Palermo	27	Italian
47	Valencia	27	Spanish
50	Zaragoza	26	Spanish
51	Milano	25	Italian
52	Nice	23	French
53	Roma	19	Italian
53	Sofia	19	Bulgarian
55	Budapest	16	Hungarian
55	Marseille	16	French
57	Nantes	15	French
58	Málaga	10	Spanish
59	Toulouse	7	French
60	Valletta	5	English
61	Athina	4	Greek
61	Lefkosia	4	Greek
63	Bucuresti	0	Romanian

Table 5: Positioning of all European Capitals and large cities

A remarkable finding is that the best portal reaches 85 points of 150 possible points, that's means only 56,7 % are reached. The most potential for reaching further points is seen in the development of complexity levels 3-5 for municipal services (cp. annex 2).

The findings of an analysis of the European capitals show (cp. Table 6) that two german-speaking Capitals are on top of the list:

<u>Positioning</u>	<u>City</u>	<u>Points</u> <u>(of max.</u> <u>150)</u>
1	Berlin	85
2	Wien	83
3	Amsterdam	67
4	Praha	66
5	Paris	56
6	Stockholm	53
7	Bratislava	50

8	København	48
8	Warszawa	48
10	Tallinn	45
11	Madrid	39
12	Dublin	38
12	Luxembourg	38
14	Helsinki	37
14	Vilnius	37
16	London	35
17	Riga	33
18	Ljubljana	30
19	Bruxelles/Brussel	28
19	Lisboa	28
21	Roma	19
21	Sofia	19
23	Budapest	16
24	Valletta	5
25	Athina	4
25	Lefkosia	4
27	Bucuresti	0

Table 6: Results for European Capitals

Another interesting evaluation is the analysis of results for second language portals, as shown in Table 7:

<u>Positioning</u>	<u>City</u>	<u>Points (of max. 150)</u>
1	Frankfurt am Main	54
2	Düsseldorf	53
3	Dortmund	46
4	Stockholm	44
5	München	42
6	Krakow	41
7	Helsinki	34
8	Köln	31
8	Wroclaw	31
10	Amsterdam	30
11	Barcelona	29
11	Essen	29
13	Rotterdam	28
13	Wien	28

15	Berlin	27
16	Bratislava	26
17	Praha	20
17	Stuttgart	20
19	Tallinn	19
20	Hannover	18
21	Lille	17
22	Milano	15
23	Torino	12
24	Lyon	11
24	Warszawa	11
26	København	10
26	Riga	10
26	Vilnius	10
29	Palermo	9
29	Sofia	9
31	Paris	8
32	Budapest	6
32	Ljubljana	6
34	Poznan	5
35	Hamburg	4
35	Lefkosia	4
35	Napoli	4
35	Valencia	4

Table 7: Results for portals in English as Second language

The best offer in English as second language reaches 54 points, accordingly 36 % of reachable points. Here, the potential for improvements is in every criteria category, particularly in the development of complexity level 1-5 of municipal services. Even if 88,4 % of the cities with second language or 60,3 % cities in total offer their services in English, but only 36% of the services are usable in English.

If we correlate the result from Table 5 and Table 7, we have to assume, that a good positioning in the first language offer is not a guarantee for a good positioning in the second language offer (cp. Figure 10)



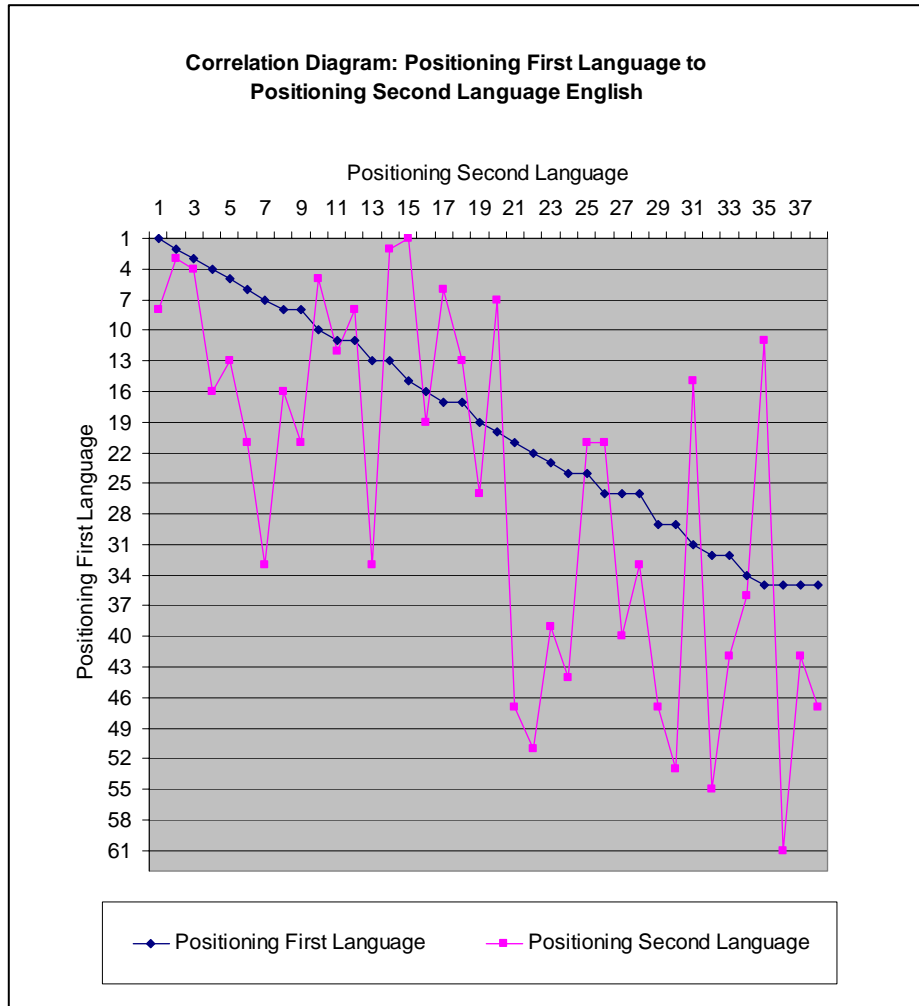


Figure 10: Correlation diagram for first and second language offers

#### 4.4 Maturity levels of the portals

In chapter 3.3, we described the methodology for classifying the city with the maturity levels. Our results show that

39, 68 % of the cities reach maturity level 0,  
 42, 86 % of the cities reach maturity level 1,

11, 11 % of the cities reach maturity level 2 and  
 6, 35 % of the cities reach maturity level 3 (cp. Figure 11).

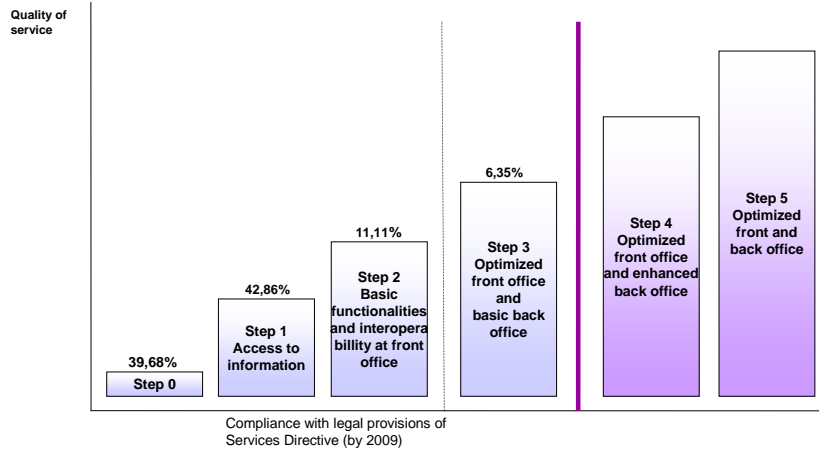


Figure 11: Maturity Levels for European capitals and large cities

In Table 8, there is an overview on which city reaches maturity level 0, 1, 2 or 3.

Maturity Level	Cities
3	Berlin, Dortmund, Düsseldorf, Wien
2	Amsterdam, Barcelona, Bremen, Essen, Frankfurt am Main, Köln, München
1	Birmingham, Bordeaux, Bratislava, Bruxelles, Dublin, Genova, Hamburg, Hannover, København, Krakow, Leeds, Lille, Lodz, London, Napoli, Palermo, Paris, Praha, Sheffield, Stockholm, Stuttgart, Tallinn, Torino, Valencia, Vilnius, Warszawa, Wrocław
0	Athina, Bucuresti, Budapest, Glasgow, Helsinki, Lefkosia, Lisboa, Ljubljana, Luxembourg, Lyon, Madrid, Málaga, Marseille, Milano, Nantes, Nice, Poznan, Riga, Roma, Rotterdam, Sevilla, Sofia, Toulouse, Valletta, Zaragoza

Table 8: Maturity Levels of EU Capitals and Large cities

Finally, it is of interest, whether and how the maturity levels correlate with the positioning of the city. Figure12 shows the correlation between the reached maturity level and the positioning.

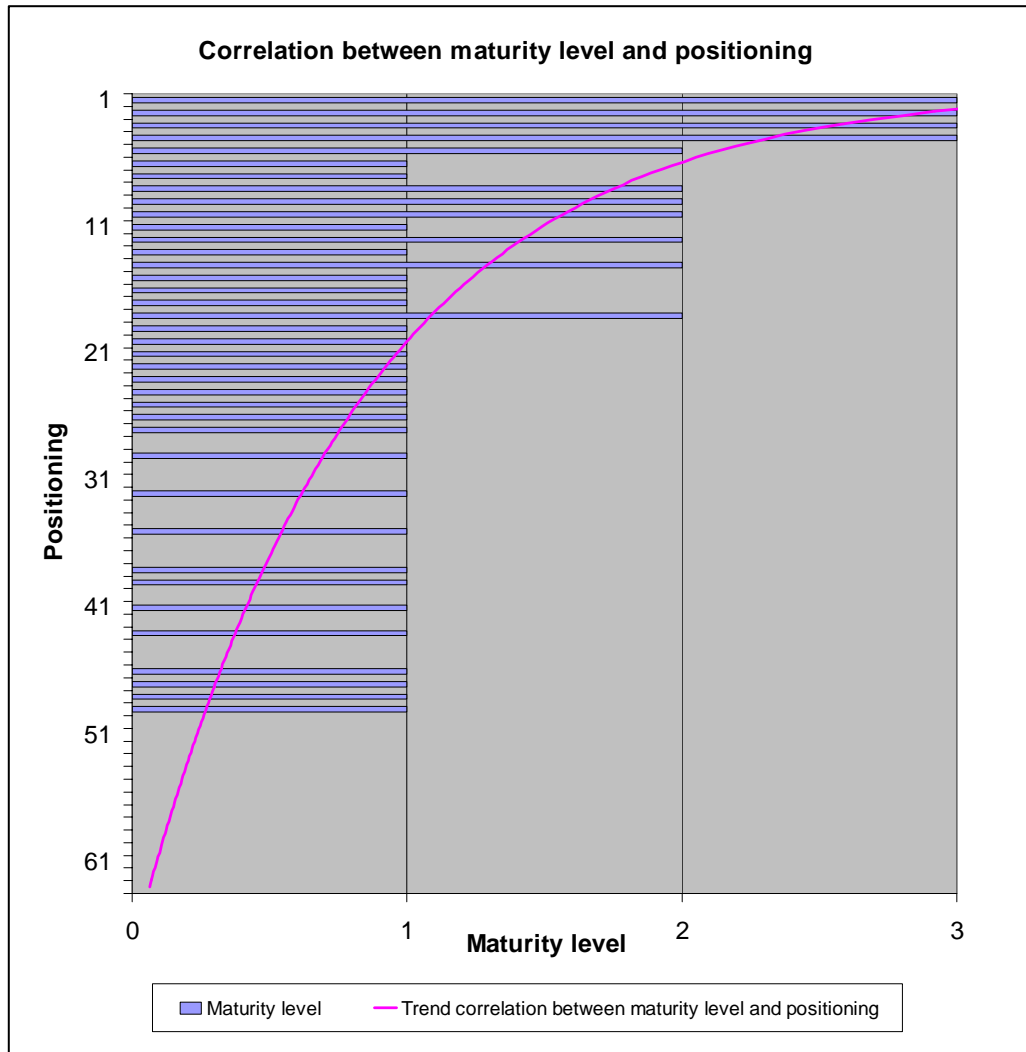


Figure12: Correlation between the reached maturity level and the positioning

## 5 Summary and Outlook

The present report presents the findings of a G2B eServices survey. The survey was accomplished in European Capitals and large cities (more than 500.000 habitants) by a “third party web assessment”. The survey was done in all 21 first languages and in English as second language.

The requirements of the EU Services Directive in mind, the report provides an overview of the implemented services and of the state-of-the-art of maturity levels for the focused portals. Based on the Procedural model for the Benchmarking of Service” – DIN PAS 1014 and conducted with the “Mystery User”, the study was accomplished widely objective and close to reality. The validation of the working hypothesis leads to the following core findings:

1. Search functions and clarity of the eServices presentation as minimum requirements are not that developed as expected. While search functions are widely available, the clarity of the offered eServices is not well developed.
2. The naming of central contact persons is well, but not overwhelming developed in the considered portals. Potentials remain in the implementation of sustainable hotlines and visible service guarantees.
3. The Services GIS, photos and video clips, feedback functionalities and municipal core services as help functions for electronically provided forms still have a lack of development.
4. The classification on the basis of a maturity model shows, that there are widely low maturity levels at present. There is potential in the development offers fulfilling higher complexity levels.
5. The analysis shows that the maturity levels of portals are positive correlated to the positioning of the city.

The study shows, that there is still a lack of eServices that fulfil the requirements of the EU Services Directive. The potential is in adequate ICT-implementations that support the development towards “One-Stop-EGovernment” for businesses [HKN08]. More development areas are presented in the field of integrated form management, which is identified as a field with growth potential. Moreover process optimisation and external tracking are also in the field of interest. In the context of the EU action plan on eGovernment, the EU Services Directive has an important part, as it requires progress in the field of processing by electronic means.

Additional demand for research is in the fields of quantitative research and permanent monitoring. For the first research field, multivariate analysis are planned to accomplish to validate the hypothesis further. The second research field comprises a concept for permanent, dynamic and multi-perspective benchmarking and monitoring of cities on the basis of a web-based instrument.

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Annex 1: Average results for categories

<b>Average of criteria</b>	first language 2 points	first language 1 point	first language 0 points	second language (english) 2 points	second language (english) 1 point	second language (english) 0 points
<b>Search functionalities for G2B eServices</b>						
Does an official web portal for the considered city exist?		98,4%	1,6%		100,0%	0,0%
Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist?		79,4%	20,6%		68,4%	31,6%
Does the entry of search terms "economy" and / or "businesses" into the input field "search" lead to G2B eServices?	73,0%	12,7%	14,3%	50,0%	13,2%	36,8%
Search path from the main portal to the overview of G2B eServices on the business portal	65,1%	12,7%	22,2%	57,9%	10,5%	31,6%
<b>average:</b>	<b>69,0%</b>	<b>50,8%</b>	<b>14,7%</b>	<b>53,9%</b>	<b>48,0%</b>	<b>25,0%</b>
<b>Clarity of eServices offered to businesses (overall view)</b>						
Does a dedicated web portal for economy or businesses exist?		76,2%	23,8%		68,4%	31,6%
Is location information for businesses available?	54,0%	28,6%	17,5%	57,9%	13,2%	28,9%
Are there photos (optical impressions by static pictures from the location) available?	25,4%	1,6%	73,0%	23,7%	0,0%	76,3%
Are there video clips (optical impressions by dynamic pictures from the location) available?	4,8%	6,3%	88,9%	5,3%	2,6%	92,1%
Is a geographic information system (GIS) available? (web.gis - applications)	22,2%	0,0%	77,8%	15,8%	0,0%	84,2%
Is a forum (e.g. idea box, suggestion box, complaint box) available?	60,3%	0,0%	39,7%	21,1%	0,0%	78,9%
Is a feedback possibility available?	22,2%	1,6%	76,2%	10,5%	0,0%	89,5%
<b>average:</b>	<b>31,5%</b>	<b>16,3%</b>	<b>56,7%</b>	<b>22,4%</b>	<b>12,0%</b>	<b>68,8%</b>
<b>Contact partner services for businesses</b>						
Is a central hotline for businesses to contact the administration available?	6,3%	42,9%	50,8%	5,3%	36,8%	57,9%
Are central contact partner for businesses named?	28,6%	4,8%	66,7%	26,3%	0,0%	73,7%
Are visible service guarantees for initial responses by the administration available?	3,2%	1,6%	95,2%	0,0%	0,0%	100,0%
<b>average:</b>	<b>12,7%</b>	<b>16,4%</b>	<b>70,9%</b>	<b>10,5%</b>	<b>12,3%</b>	<b>77,2%</b>
<b>Form services for businesses</b>						
Are business-oriented form download services available ?	23,8%	22,2%	54,0%	5,3%	0,0%	94,7%
Are help functions for forms and procedures (e.g. completion support, check lists) available?	4,8%	11,1%	84,1%	0,0%	0,0%	100,0%
Is digital signature for authentication embedded in the form management?	4,8%	14,3%	81,0%	0,0%	0,0%	100,0%
Is application processing per form directly online available?	7,9%	6,3%	85,7%	0,0%	0,0%	100,0%
Are the form services connected to external bodies? (e.g. country administration, state administration)?	3,2%	7,9%	88,9%	2,6%	0,0%	97,4%
<b>average:</b>	<b>8,9%</b>	<b>12,4%</b>	<b>78,7%</b>	<b>1,6%</b>	<b>0,0%</b>	<b>98,4%</b>



Annex 2: Evaluation matrix

Criteria catalogue, indicators and measurement units

Municipal G2B eServices (name of municipality)-xx (homepage respectively main portal)

criteria	weighting coefficient	Amsterdam dutch	Athina greek	Barcelona spanish	Berlin german	Birmingham english	Bordeaux french	Bratislava slovak	Bremen german	Bruxelles french	Bucuresti romanian	Budapest hungarian	Dortmund german	Dublin english	Düsseldorf german	Essen deutsch	Frankfurt a.M.deutsch	Genova italienisch	Glasgow englisch	Hamburg deutsch	Hannover deutsch	Helsinki finnisch	Köbenhavn dänisch	Köln deutsch	Krakow polnisch	Leeds englisch	Lefkosia griechisch	
<b>Search functionalities for G2B eServices:</b>																												
Does an official web portal for the considered city exist ?	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist ?	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Does the entry of search terms "economy" and/or "businesses" into the input field "search" lead to G2B eServices ?	1	2	0	2	2	2	2	2	2	2	0	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	0	
Search path from the main portal to the overview of G2B eServices on the business portal	1	2	0	2	2	2	2	2	2	2	0	0	2	1	2	2	2	1	2	2	2	2	2	2	2	2	0	
<b>Clarity of eServices offered to businesses (overall view):</b>																												
Does a dedicated web portal for economy or businesses exist ?	2	2	0	2	2	2	2	2	2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
Is location information for businesses available ?	1	2	0	2	2	2	2	1	2	1	0	1	2	1	2	2	2	1	2	2	2	2	1	2	2	2	0	
Are there photos (optical impressions by static pictures from the location) available ?	1	0	0	0	2	2	0	0	2	0	0	0	0	2	1	2	0	0	2	2	0	0	0	2	2	2	0	
Are there video clips (optical impressions by dynamic pictures from the location) available ?	1	0	0	0	0	0	2	2	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	2	0	0	
Is a geographic information system (GIS) available? (web.gis - applications)	2	4	0	4	4	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	4	0	0	0	0	0	0	
Is a forum (e.g. idea box, suggestion box, complaint box) available?	2	4	0	4	4	0	0	4	4	0	0	4	4	4	4	4	4	0	4	0	0	4	0	4	4	4	0	
Is a feedback possibility available ?	2	0	0	0	2	4	0	4	4	0	0	0	4	0	4	4	0	0	0	0	0	0	0	0	0	4	0	
Is the portal available multilingual (the portal is available at least in 1 foreign language) ?	3	3	0	3	3	0	3	3	0	3	0	3	6	0	6	6	6	0	0	3	3	3	3	6	3	3	3	
<b>contact partner services for businesses:</b>																												
Is a central hotline for businesses to contact the administration available?	1	2	0	1	1	2	1	0	1	1	0	0	1	0	1	1	1	1	0	1	1	2	1	1	0	1	0	
Are central contact partner for businesses named?	2	0	0	0	2	0	4	0	2	4	0	0	4	0	4	4	4	0	0	4	4	0	4	4	0	0	0	
Are visible service guarantees for initial responses by the administration available?	2	0	0	0	0	4	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
<b>form services for businesses:</b>																												
Are business-oriented form download services available?	2	4	0	4	4	4	0	4	2	0	0	0	2	0	4	4	4	2	0	4	2	0	2	2	2	0	0	
Are help functions for forms and procedures (e.g. completion support, check lists) available ?	2	4	0	2	4	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	
Is digital signature for authentication embedded in the form management ?	3	0	0	0	3	0	0	3	3	0	0	0	3	0	0	0	0	0	0	3	3	3	0	0	0	0	0	
Is application processing per form directly online available ?	3	6	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	
Are the form services connected to external bodies ? (e.g. country administration, state administration)	2	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	2	2	0	2	0	0	0	0	
<b>Municipal G2B eServices (choice):</b>																												
Industrial real estate and commercial property - in which complexity level available on the business portal ?	3	3	0	3	6	6	3	3	6	3	0	3	6	3	6	3	3	3	3	3	3	6	6	3	6	6	0	
Services for founders of new businesses - in which complexity level available on the business portal ?	3	6	0	9	6	3	6	3	6	0	0	0	3	3	6	6	6	3	3	3	6	6	3	6	0	3	0	
Registration of a business - in which complexity level available on the business portal ?	3	6	0	6	6	3	0	3	6	3	0	0	6	12	6	6	6	6	0	6	6	0	6	3	9	0	0	
E-Tendering / E-Placing - in which complexity level available on the business portal ?	3	6	3	6	9	3	6	6	9	0	0	3	6	3	9	6	9	6	6	9	6	0	6	6	3	6	0	
Other municipal business-oriented services - in which complexity level available on the business portal ?	3	9	0	6	9	6	9	6	6	3	0	0	12	3	6	6	9	3	3	9	12	3	6	6	3	6	0	



Annex 2: Evaluation matrix

Criteria catalogue, indicators and measurement units  
Municipal G2B eServices  
(name of municipality).xx  
(homepage respectively main portal)

criterion	weighting coefficient	deutsch	estnisch	italienisch	französisch	spanisch	englisch	litauisch	polnisch	deutsch	polnisch	spanisch	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *	second language english *		
		Stuttgart	Tallinn	Torino	Toulouse	Valencia	Vallletta	Vilnius	Warszawa	Wien	Wroclaw	Zaragoza	Amsterdam	Barcelona	Berlin	Braislava	Budapest	Dortmund	Düsseldorf	Essen	Frankfurt a.M.	Hamburg	Hannover	Helsinki	Köbenhavn	Köln	Krakow	
<b>Search functionalities for G2B eServices:</b>		57	45	34	7	27	5	37	48	83	48	26	30	29	27	26	6	46	53	29	54	4	18	34	10	31	41	
Does an official web portal for the considered city exist ?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist ?	1	1	1	1	0	0	0	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	
Does the entry of search terms "economy" and/or "businesses" into the input field "search" lead to G2B eServices ?	1	2	2	2	0	2	0	2	1	2	1	2	2	2	0	2	0	2	2	2	2	0	1	2	1	2	1	
Search path from the main portal to the overview of G2B eServices on the business portal	1	2	0	2	0	0	0	2	2	2	2	0	2	2	2	0	2	2	2	2	0	2	1	2	2	2	2	
<b>Clarity of eServices offered to businesses (overall view):</b>																												
Does a dedicated web portal for economy or businesses exist ?	2	2	2	2	0	0	0	2	2	2	2	0	2	2	2	0	2	2	2	2	0	2	2	2	2	2	2	2
Is location information for businesses available ?	1	2	2	1	0	1	0	1	1	2	2	1	2	2	2	0	2	2	2	2	0	2	2	0	2	2	2	
Are there photos (optical impressions by static pictures from the location) available ?	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	2	0	0	0	2	0	0	2	2	
Are there video clips (optical impressions by dynamic pictures from the location) available ?	1	0	0	0	0	0	0	1	0	0	0	0	2	0	0	2	0	1	0	0	0	0	0	0	0	0	0	
Is a geographic information system (GIS) available? (web.gis - applications)	2	4	4	0	0	0	0	0	4	4	0	0	0	4	0	0	0	0	0	4	0	4	0	0	0	0	4	
Is a forum (e.g. idea box, suggestion box, complaint box) available?	2	4	0	4	0	0	4	0	4	4	4	4	0	0	0	0	4	4	0	0	0	0	4	0	0	0	4	
Is a feedback possibility available ?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	
Is the portal available multilingual (the portal is available at least in 1 foreign language) ?	3	3	3	3	0	3	0	3	3	6	6	0	3	3	3	3	6	6	6	6	3	3	3	3	3	6	6	
<b>contact partner services for businesses:</b>																												
Is a central hotline for businesses to contact the administration available?	1	0	1	0	0	0	0	0	0	1	0	0	2	1	1	0	0	1	2	1	1	0	0	1	0	1	1	
Are central contact partner for businesses named?	2	4	4	0	0	0	0	0	0	4	2	0	4	0	4	0	0	4	4	0	4	0	0	4	0	0	0	
Are visible service guarantees for initial responses by the administration available?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>form services for businesses:</b>																												
Are business-oriented form download services available?	2	2	4	0	0	2	0	0	2	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	
Are help functions for forms and procedures (e.g. completion support, check lists) available ?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Is digital signature for authentication embedded in the form management ?	3	0	0	0	0	0	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Is application processing per form directly online available ?	3	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Are the form services connected to external bodies ? (e.g. country administration, state administration)	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	
<b>Municipal G2B eServices (choice):</b>																												
Industrial real estate and commercial property - in which complexity level available on the business portal ?	3	3	6	0	0	0	0	3	6	9	3	0	3	3	3	6	0	3	6	6	6	0	0	3	0	6	6	
Services for founders of new businesses - in which complexity level available on the business portal ?	3	6	3	3	0	3	0	0	0	3	6	6	3	3	3	0	0	3	6	3	3	0	0	3	0	3	6	
Registration of a business - in which complexity level available on the business portal ?	3	6	6	6	0	3	0	3	9	9	6	0	0	0	0	0	6	3	0	6	0	0	0	0	0	0	0	
E-Tendering / E-Placing - in which complexity level available on the business portal ?	3	9	0	3	3	6	0	3	3	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other municipal business-oriented services - in which complexity level available on the business portal ?	3	6	6	6	3	6	0	9	6	9	6	6	3	3	3	0	6	6	3	6	0	0	3	0	3	3		

Annex 2: Evaluation matrix

Criteria catalogue, indicators and measurement units  
 Municipal G2B eServices  
 (name of municipality).xx  
 (homepage respectively main portal)

criterion	weighting coefficient	second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		second language english *		
		Lefkosia	Lille	Ljubljana	Lyon	Milano	München	Napoli	Palermo	Paris	Poznan	Praha	Riga	Rotterdam	Sofia	Stockholm	Stuttgart	Tallinn	Torino	Valencia	Vilnius	Warszawa	Wien	Wroclaw
<b>Search functionalities for G2B eServices:</b>																								
Does an official web portal for the considered city exist ?	1	4	17	6	11	15	42	4	9	8	5	20	10	28	9	44	20	19	12	4	10	11	28	31
Does an official web portal for the considered city exist ?	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do link functionalities to a dedicated website for economy or businesses with bundled G2B eServices exist ?	1	0	1	0	1	1	1	0	0	0	0	1	0	1	0	1	1	1	0	0	1	1	1	1
Does the entry of search terms "economy" and/or "businesses" into the input field "search" lead to G2B eServices ?	1	0	2	2	2	0	2	0	0	0	0	2	1	1	0	2	2	0	2	0	0	0	2	2
Search path from the main portal to the overview of G2B eServices on the business portal	1	0	2	0	2	2	2	0	0	0	0	2	0	2	0	2	1	1	0	0	1	2	2	2
<b>Clarity of eServices offered to businesses (overall view):</b>																								
Does a dedicated web portal for economy or businesses exist ?	2	0	2	0	2	2	2	0	0	0	0	2	0	2	0	2	2	2	0	0	2	2	2	2
Is location information for businesses available ?	1	0	2	0	0	2	2	0	0	0	1	2	1	1	1	2	2	2	0	0	2	2	1	2
Are there photos (optical impressions by static pictures from the location) available ?	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Are there video clips (optical impressions by dynamic pictures from the location) available ?	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Is a geographic information system (GIS) available? (web.gis - applications)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0
Is a forum (e.g. idea box, suggestion box, complaint box) available?	2	0	4	0	0	0	0	0	0	4	0	0	0	0	4	0	4	0	0	0	0	0	0	0
Is a feedback possibility available ?	2	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
Is the portal available multilingual (the portal is available at least in 1 foreign language) ?	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3	6	6
<b>contact partner services for businesses:</b>																								
Is a central hotline for businesses to contact the administration available?	1	0	0	0	0	1	1	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
Are central contact partner for businesses named?	2	0	0	0	0	0	4	0	4	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
Are visible service guarantees for initial responses by the administration available?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>form services for businesses:</b>																								
Are business-oriented form download services available?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Are help functions for forms and procedures (e.g. completion support, check lists) available ?	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Is digital signature for authentication embedded in the form management ?	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Is application processing per form directly online available ?	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Are the form services connected to external bodies ? (e.g. country administration, state administration)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Municipal G2B eServices (choice):</b>																								
Industrial real estate and commercial property - in which complexity level available on the business portal ?	3	0	0	0	0	0	6	0	0	0	0	0	0	3	0	3	0	3	0	0	0	0	0	3
Services for founders of new businesses - in which complexity level available on the business portal ?	3	0	0	0	0	3	3	0	0	0	0	3	0	3	0	6	0	3	6	0	0	0	3	6
Registration of a business - in which complexity level available on the business portal ?	3	0	0	0	0	0	3	0	0	0	0	0	0	3	0	6	0	0	0	0	0	0	3	3
E-Tendering / E-Placing - in which complexity level available on the business portal ?	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other municipal business-oriented services - in which complexity level available on the business portal ?	3	0	0	0	0	0	3	0	0	0	0	3	0	3	0	6	0	3	0	0	0	0	3	3