DELIVERABLE

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D5.2
Service Analysis & documentation

Version: 1.0

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Revision History

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Statement of originality:
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1. Executive Summary

The objective of Work Package 5 is to work with the EPIC pilot ecosystems to explore, document and develop the scenarios outlined in D5.1 Specifications of Scenarios of Use & Ecosystems and that will be used to pilot the integrated service platform. More specifically, WP5 will work to analyse, document and specify the scenarios in such a way that they match both the city/Living Lab abilities, to provide documentation on targeted users in the service context and to develop adaptation rules and criteria that will allow the customization of services on the EPIC platform¹. At the same time, this Work Package will provide information that will be of use in the subsequent work package (WP6 – Roadmap development).

The purpose of this report is to highlight the added value of the new web-based services developed within the EPIC project, by making an overview followed by a SWOT analysis of the available ICT services provided by each EPIC pilot city.

The work for this deliverable was carried out within task T5.2 of WP5 – User task analysis & documentation - identifying the way users interact with the services, the routes they follow to gain information and what are their personal, social, and cultural characteristics, allowing understanding of their behaviour in information seeking and use of existing services. In this way, it can be read in conjunction with D2.2. Stakeholder (User) Workshops’ Results as it builds further on the workshop results and derived requirements.

¹D5.3 Adaptation rules & criteria for EPIC Scenarios – to be delivered by the end of October 2012
2. Introduction

The main goal of the EPIC project is to develop an openly accessible platform that provides every city in Europe with the opportunity to create and share innovative city web service-based information and applications. These services will deliver benefits to citizens and SMEs as well as efficiency and effectiveness for the city administration. In addition, a business roadmap for exploiting the platform will be developed which will not only change the way that city services are developed and offered, but also leverage new market trends and business opportunities across Europe.

This document is divided into three main sections. Section 3 is devoted to the presentation of the ICT services available in each pilot city. More precisely, a global table presents the services provided by the local administration, followed by a more detailed presentation of the audience-specific services targeted by the EPIC project and the available channels used to access the services. On the basis of this overview, the pilot cities will be able to assess in what way the local governments are ready to adopt the EPIC services and what benefits these will generate for the cities, in providing ICT services to their citizens. Finally, a presentation of the current IT infrastructure of the city is provided.

Section 4 describes the user behaviour in the search for information, in order to document whether users can accept and adopt the new EPIC services. First, a user typology for each city is provided, followed by an overview of users’ feedback on existing services.

Section 5 should be read in close relation with section 3 and provides a SWOT analysis of the existing ICT services in each city, with a focus on the city, the citizens and businesses. The purpose of this analysis is to assess each pilot city’s environment and relevance for the adoption of the new EPIC service.

Finally, the general conclusions derived from this document are described in Section 6.

The information, data and conclusion presented in this deliverable were, for each pilot city, collected between 1 November 2011 and 15 February 2012. This was done by conducting an in-depth analysis of ICT services provided by the city authorities; the consultation and analysis of publicly available studies and reports containing recent information about these ICT services; and finally, interviews and feedback from several ICT service providers for each city.
3. Overview of ICT services provided by the three pilot cities

This section presents an overview of the ICT services that are available in each pilot city guided by four dimensions:

First, for each city, a table presents a general overview of the services provided by the local authorities and the types of interactions they provide. The table shows if and how interactions occur in the provision of information and links to external websites; allow for additional information requests and document downloads or allows online transactions with the city authority.

Second, each pilot city has analysed the audiences targeted by these services from the pilot’s point of view. Issy-les-Moulineaux presented how businesses are targeted, Manchester highlighted how general citizens are addressed and Brussels demonstrated how expats are targeted.

Third, each pilot city presents the available channels to access the existing services.

Fourth, the current IT infrastructure in Issy-les-Moulineaux, Manchester and Brussels is presented and analysed.

As a result of this analysis, each pilot city yield insight into whether the current ICT services landscape is capable to adopt EPIC and, if so, how it can benefit the current situation.

3.1 Urban Planning Pilot/ Issy-les-Moulineaux

Lying southwest of Paris alongside the River Seine, Issy-les-Moulineaux is a medium-sized city and one of the 36 communes belonging to the French department Hauts-de-Seine. With an area covering 425 ha and a total population of 64,848 inhabitants for 70 000 jobs, Issy stands out for its particularly dynamic economic fabric.

With 1,430 companies and 35,000 jobs in this sector, ICT is the economical driving force of the city. The main ICT companies established in Issy are Microsoft, Cisco Systems Europe, France Telecom R&D, Bouygues Telecom, Bull, Sybase, Wavecom, Withings, Safran Morpho, Huawei. With almost 90% of inhabitants connected to the Internet from their homes, Issy-les-Moulineaux has a connection rate twice that of the French national average.

The city council is the administrative body responsible for locally delivered public services.
3.1.2 Typology of ICT services

The Internet allowed the relation between Issy’s local administration and its inhabitants to be modernized. E-services were first implemented in autumn 1997, on the city’s website (www.issy.com). Numerous routes are offered for the user to access services.

Figure 1 below is a screenshot of the city access portal.

Table 1 which follows provides a comprehensive summary of the e-services provided by the local government.

![Figure 1: Issy-les-Moulineaux access portal](image-url)
<table>
<thead>
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<th>ISSY SERVICES ANALYZED</th>
<th>TYPES OF INTERACTION</th>
<th>INFORMATION &amp; LINKS TO EXTERNAL WEBSITES</th>
<th>No of ADDITIONAL INFORMATION REQUESTS &amp; DOWNLOAD FORMS</th>
<th>No of ONLINE SERVICE APPLICATIONS</th>
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<td>4</td>
<td>1</td>
<td>4</td>
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<td></td>
<td></td>
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<td>1</td>
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<td>Check waste collection days; bulky waste removal; recycling sites listing; glass collection points; inquiries about waste-sorting; further information on waste &amp; recycling</td>
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<td></td>
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<td></td>
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<tr>
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<td>3</td>
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<td></td>
<td></td>
<td></td>
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<td>3</td>
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<td>5</td>
<td>1</td>
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<tr>
<td>Online ordering of birth, death, marriage &amp; civil partnerships certificates; online ordering of family record books; wedding celebrations and child sponsoring forms; fees &amp; charges; online ordering of IDs &amp; passports</td>
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<td>9</td>
<td>1</td>
</tr>
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<td>Planning permits applications; building permit applications; demolition permits; building permits via ‘the urban planning tool Issy 3D’ - view status, monitor &amp; track applications; view applications and documents under consideration; planning information notes; urban planning 3D map</td>
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<td>3</td>
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<td>School term dates &amp; general information; online school directory; school places &amp; applications; online payment of school fees, meals and extracurricular activities; online directory of school canteens (3 audience-specific site sections: parents, pupils, teachers); download the “School Guide”; search for/apply as a tutor or a baby-sitter (via the service Issy Comme Vous); child protection on the Internet</td>
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<td>Local car park finder directory; disabled parking; links to external providers; online payment of parking fees; online extension of parking; parking ticket machine points; reservations for parking spaces for new or relocating residents; residents parking permits; Autolib parking points (electric car sharing scheme)</td>
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<tr>
<td>Problem reporting (accidents, streets, pavements, cycleways, street lighting, traffic lights, street cleaning, abandoned vehicles); road signs &amp; advertisements; online forms; public space management, occupancy permits &amp; licence fees</td>
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<td>Links to external websites; public transport journey planner; problem reporting; travel passes</td>
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<td>Public housing application; housing loans; flat-sharing offers (via the service Issy Comme Vous); household repair &amp; decoration/garden maintenance requests; household surveillance during holidays; reservation of parking slots in case of relocation; list of residences for students &amp; young workers</td>
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<th>2</th>
<th>0</th>
</tr>
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<tr>
<td>Online ordering of city publications; links to external websites; reservation and payment for seats at shows at Issy’s Conference Hall and Arts Centre; reservation and payment of hotel rooms; leisure centres listing</td>
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</table>

<table>
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<th><strong>Other services:</strong></th>
<th>1</th>
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<th>5</th>
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<tbody>
<tr>
<td>Online registration on voter lists; online application to calls for tenders; online publication of advertisements (via the service Issy Comme Vous); download the city’s mobile applications for iPhone and iPad; download the city’s newspaper; newsletter subscription, SMS registration for weather &amp; events alerts; ‘Mon Issy.com’ service</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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*Table 1: Summary of the e-services provided in Issy-les-Moulineaux*
3.1.3 Specific audience services

The services proposed by the local administration in Issy target six types of audiences:

(1) The general citizens
(2) The parents
(3) The youth
(4) The elderly
(5) The associations
(6) The businesses

In accordance with the typology provided in the previous section, the services that are provided to local businesses include the following:

a) **Online directory of traders and craftsmen** (link to an external website, from the city portal: [http://www.issy-commerces.com/](http://www.issy-commerces.com/))

b) **Online payment of benefits** ([http://www.issy.com/tipi/](http://www.issy.com/tipi/))

Available 24/7, this service enables enterprises to pay their benefits to the public treasury via a secure payment system without any prior procedures.

c) **Business support** via the structure *Seine Ouest Entreprise et Emploi* ([http://www.seineouest-entreprise.com/](http://www.seineouest-entreprise.com/))

The objectives of this entity are to facilitate the economic development by connecting the public and private sectors, participate in the local economic life by running local business networks to inform and favor new encounters and new business partnerships.

Among the local business networks we can name:

- **The BossClub** - a network of innovative SMEs from Issy-les-Moulineaux.
- **“Matinales de l’Innovation”** - The Mornings of Innovation, regular meetings between companies of the Urban Community Grand Paris Seine West - which Issy is part of -, in order to exchange and cooperate on common themes. A journalist, expert in technology watch, runs the meetings.
- **The AS Club** - an informal group gathering the heads of the local enterprises and André Santini, the Mayor of Issy-les-Moulineaux. More than 70 companies are part of this club and around 50 meetings have been organized since its creation.

d) **Business incubators.**

Issy’s business incubator "La Pépinière" is a breeding ground for young companies and start-ups. "La Pépinière" offers assistance to start-up businesses by providing affordable rent, flexible space and lease options, business and consulting services as well as equipment and wired and wireless high-speed broadband access.

Part of this business incubator is the so-called "Cyber-Pépinière", created to support highly innovative start-ups in the ICT sector.

e) **L’ECO** – the magazine of economic affairs, available for download or online consultation, on the website of the Urban Community of Grand Paris Seine West ([http://www.seineouest-entreprise.com/actualites/eco](http://www.seineouest-entreprise.com/actualites/eco))
f) **Electronic calls for tenders**

Up until 2000, companies wishing to take part in calls for tenders could consult on the city portal the list of public works contracts issued, underway or delivered. Starting spring 2000 interested companies can receive, upon request, the call specifications by e-mail. Today this service is used by 90% of the candidates applying to calls for tenders. Dematerialization of public works contracts took place in 2002 with the introduction of the electronic signature and in 2003, with the implementation of electronic bidding, the whole call for tenders’ process was dematerialised.

Concretely, in the process of obtaining a procurement contract from the city, candidate companies can settle preliminary formalities in their application, deposit their file and exchange with the city via the Internet. After deliberation, the city sends the final decision via a trusted server, which then informs the companies in question of the results. This process offers many advantages for companies, such as time and energy saving. It brings also an advantage for the city as it facilitates transparency and security. Moreover, files are more easily and rapidly studied.

Another means put in place by the local administration to help local businesses was lowering the fiscal burden. Indeed, the transformation of Issy-les-Moulineaux into an internationally recognized cyber-city has enabled it to reduce the fiscal burden for both citizens and businesses.

By bringing together the companies based in Issy, the Mayor generated a virtuous circle enabling the companies to develop under best conditions, while at the same time offering Issy’s citizens the possibility to benefit from new services.

### 3.1.4 Available channels to access the existing services

Issy-les-Moulineaux has adopted a multi-channel strategy to ensure that all its citizens have better access to service information at all times. With 95% of households having Internet access, out of which more than half through broadband connection, it seems natural that all municipal services be made accessible online.

The city provides services over eight communication channels:

- **Person** – a visit to the authorities premises
- **Telephone** – calls to a central number for redirection or to individual service providers
- **Email** – city agents may be contacted by direct email in some instances; in others a generic service email is available. The response time is less than 48 hours.
- **Letter** – information or services requested via letters
- **Website** – information via the internet
The city’s website www.issy.com provides portal entry to online services available.

- Online 2D & 3D map library (http://cartographie.issy.com/cartes/)
- Twitter
- Facebook
- SMS – possibility to receive SMS alerts to one’s mobile phone according to one’s preferences. Inhabitants just have to sign up for the service via the city’s website and receive practical alerts such as weather or events alerts.

The local administration has put in place a system dedicated to facilitate and improve guidance and processing procedures of administrative documents of the citizens. Named IRIS (Information and Reception of Isseans), the system concerns all kind of public services and makes it possible to handle an unlimited variety of requests. IRIS involves 300 potential users, employees of the city to enrich the knowledge base and to take into account the processing of requests. Via one, single portal, the requests are recorded, qualified and forwarded to the appropriate department in charge of handling the request. IRIS concerns every service, without exception: starting from the civil registry office to education, infants, the Media library, sports department, etc.

Disabled people, especially visually impaired can now be better informed thanks to an internet website following international standards for accessibility, but also thanks to vocal chronicles like articles from the local magazine "Point d'Appui” recorded on an audio CD.

The online cartography allows users to discover the city and some of the services provided. Via a set of three applications, professionals and citizens alike can access, explore, better understand and work together on representation and information of different sites and major development projects of the city. This innovative digital solution offers access to the Geographic Information System of the city, to a number of interactive maps (History of the city; Cadastral data; Major planning and urbanism operations; Current projects; Current Building permits and Sustainable Development) as well as to a 3D representation allowing an interactive navigation and discovery of the city.

This online tool came as an additional channel to the Urban Planning Centre, a public area where professionals and citizens can meet and exchange information on the urban development of the city.

A multi-channel approach in the Web 2.0 era also includes using the potential of social networks: the City's Facebook page counts more than 3,800 fans and the Twitter account 741 followers. This is an opportunity for the local administration to promote their services and events and to reach a mobile audience.
The most utilized method for contacting the council is in person, used by 38% of the inhabitants. This is followed by Internet and electronic mail (31% of the population) and lastly by telephone (29%).

The use of Internet in the delivery of public services (e-government in short) has many benefits for citizens, businesses and city employees alike. To citizens and businesses, e-government would mean the simplification of procedures and streamlining of the approval process. To government employees and agencies it would mean the facilitation of cross-agency coordination and collaboration to ensure appropriate and timely decision-making.

### 3.1.5 Current IT infrastructure

In 1996 the local government adopted a Local Information Plan with the objective to speed up the pace of technology innovation and to transform Issy-les-Moulineaux into a “digital city”. This approach was in line with the strategy for economic development initiated by the mayor: attracting more companies in promising sectors in order to accelerate the transformation of the City. In this context, the Steering Committee, put in place by the Mayor, met up with economic key players of the City in order to collect their expectations on the technological infrastructure, its quality and cost.

The only possibility for local governments in France to influence broadband deployment is to foster open competition. The Mayor of Issy André Santini, put great efforts in creating a highly competitive environment as early as possible. He was indeed the first in France to immediately start negotiating with alternative telecommunications operators, and on 1 January 1998 - the day the monopoly of France Telecom ended – Issy was the first city to offer a competitive environment for the benefit of local businesses.

Issy took, therefore, advantage of this liberalization to attract competitive fiber carriers deploying cost-effective broadband. In June 2005, the Mayor of Issy and the CEO of France Telecom signed an “Innovative City” convention. According to the terms of this agreement, Issy is one of the first cities to benefit from the innovations of France Telecom. The setting up of FTTH and outdoor Wi-Fi was a result of this.

Furthermore, Issy was the first city in France to outsource its IT-systems in 1998. Back then, the City’s IT department employed 9 persons who were managing nearly 400 passive terminals and implementing around 3 projects a year. Today, the IT management team is employing 3 persons who manage nearly 1300 computers connected to high speed internet and around fifty servers, implementing fifteen projects a year. IT outsourcing thus helped to modernise the City’s networks, renew its infrastructures and offer more online services for Issy's inhabitants.
A robust e-Government portal provides online public procurement, online training, and access to the "citizen relationship management" system IRIS, described in the previous chapter.

Since June 2009, Issy has started converting itself progressively to ToIP (Communication through Internet). This large-scale project includes 36 sites and 360 phones to build a more efficient, multi-usage and saving making communication tool. Only one network is to be maintained. Since 1 April 2010, the annual operating costs of telephony and digital networks went from 418,000 euros to 242,000 euros - a 176,000 € annual saving. A technological change, shared by all services, more user friendly, and equipped with extra functionalities – shared directory, shared mail, collaborative system - will allow the numerous users in the City to improve their skills and put together their contacts to have a common directory. This breakaway from usual telephony is also part of the improvement of public service.

Local government, school, library, and healthcare buildings are fully wired with broadband. In addition, more than 100 Internet terminals with speeds as high as 20 Mb/s are available for free public use in the multimedia libraries, the Municipal Administrative Centre, the Issy's District Centres and even the retirement homes. At peak times, more than 150 persons are simultaneously connected on the network, through the terminals and public WiFi.

In sum, since its adoption in 1996, the Local Information Plan has been serving as a guide to the various initiatives launched in Issy. The plan is driven by a strong commitment to improve citizen access to government, deliver superior services to both citizens and staff, maximize the productivity of City employees, reduce operating costs and shorten project cycle times.

3.1.6 Conclusion

The presentation of Issy's services points out that the city has skilfully used ICT for the benefit of its citizens. Moreover, by developing a multi-channel approach and proposing different types of interactions, Issy has managed to reach all the categories of the population. Issy.com and IRIS have both been designed and developed to respond to the users’ needs, by taking advantage of the potential offered the ICT and the Web 2.0.

With its numerous SMEs working in the ICT and media sector, its IT infrastructure and the close relationship between the city administration, the SMEs and the citizens, Issy-les-Moulineaux provides optimal conditions for testing the Urban Planning Service, a first step in the future provision of smart city solutions.
3.2 Smart Environment Pilot / Manchester

Manchester is a city and metropolitan borough in Greater Manchester with a population estimate of 498,800. It lies within one of the United Kingdom's largest metropolitan areas; Greater Manchester has an estimated population of 2.6 million. The city authority, Manchester City Council (MCC) is the administrative body responsible for locally delivered public services.

As a backdrop to e-government take-up, internet/broadband use and penetration in the UK is compared to the top performing countries worldwide. Internet usage has increased significantly in the UK in recent years. UK take up is approximately 77%\(^2\) and whilst there is an increasing trend towards mobile access, statistics reveal that 93% of adults who accessed the Internet in the last three months did so from home. However the local context is that Manchester has some of the most deprived communities in the UK according to statistics\(^3\). Manchester ranks 4\(^{th}\) in the list of most deprived districts in England\(^4\). Based on this home access to broadband will be lower than the 77% national figure. Local estimates are more in the region of 65%.

As a city authority, the increasing development of online services is also set against the context of increasing fiscal pressures. The widely quoted figures for channel costs in local government are 17 pence per enquiry for the web, as opposed to £4 for phone enquiries and £7.81 for face-to-face enquiries\(^5\).

3.2.2 Typology of ICT services

The online services are accessed via the city’s website www.manchester.gov.uk. Figure 2 shows the access portal which summarises all the online services available (Table 2). The user experiences offer numerous channels to access services.

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\(^4\) Source: List of most deprived districts in England 2010 - CLG

\(^5\) Socitm Insight Better marketed: achieving success with take-up of online services
Figure 2: Manchester city access portal
<table>
<thead>
<tr>
<th>MCC SERVICES ANALYSED</th>
<th>TYPES OF INTERACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INFORMATION &amp; LINKS TO EXTERNAL WEBSITES</td>
</tr>
<tr>
<td>Local (Council) Tax: change of address - moving to &amp; from Manchester; change in circumstances; look up local council tax band for property; make online payments; set up bank payments (direct debits) online; view local tax account status online; eligible discounts</td>
<td>3</td>
</tr>
<tr>
<td>Housing Benefits: New claim applications for housing/council tax benefits; change in circumstances; track benefit payments; account status &amp; claim application tracker status tracker; online benefit calculator; online grants application for school meals; Manchester Advice links, additional information</td>
<td>7</td>
</tr>
<tr>
<td>Rubbish &amp; Waste/Recycling: Check waste collection days; bulky waste removal; recycling sites listing; bin collection problem reporting; replacement/additional recycling bin ordering; report flytipping/dumped rubbish; report problems with litter, bins or recycling</td>
<td>4</td>
</tr>
<tr>
<td>Payments Online: Local (Council) Tax; local commercial tax (business rates); parking fines &amp; bus lane fines; City Council invoices; housing rent &amp; insurances; childcare early years services; Manchester Credit Union payments; mortgages; adult services</td>
<td>3</td>
</tr>
<tr>
<td>Library Services: Library service locations &amp; opening hours; online library application for membership; online book renewals; online reference library; download ebooks; Archives &amp; local studies catalogues/ancestry research</td>
<td>3</td>
</tr>
<tr>
<td>Licensing: Alcohol, entertainment, food licensing; events notices; taxi &amp; private hire; other licensed premises; market &amp; street trading; environmental; public safety - sports stands/grounds, scrap metal; motor salvage, poisons, weighbridge operators; gambling/charities - gambling premises, street collections, society lotteries registration, house to house collections; personal</td>
<td>14</td>
</tr>
<tr>
<td>Births, Marriages, Deaths Registrations: Births - trialling online birth registration, request copy certificates, online appointment bookings; Deaths/funeral/cremations - online access old burial records, cemeteries &amp; crematoria listings, fees &amp; charges, download brochures - memorials etc, contact information about registering deaths etc; Online application for copy certificates - birth, deaths, marriage &amp; civil partnerships;</td>
<td>17</td>
</tr>
<tr>
<td>Planning: Submit &amp; pay online for planning applications via ‘planning portal’; video tutorials for applications; interactive householder guidance; specialist guides, amendments; planning application status via ‘planning public access system’ - view status, monitor &amp; track applications; view applications and documents under consideration; submit comments on planning applications; search for appeals &amp; enforcement actions; building control - regulations &amp; health and safety; feedback &amp; suggestions</td>
<td>15</td>
</tr>
<tr>
<td>Schools &amp; Education: School &amp; sixth form colleges term dates &amp; general information; online school directory; admissions - consultations, school places, applications; school travel passes, free school meals/clothing grant applications; school performance assessment &amp; school complaints; youth support</td>
<td>7</td>
</tr>
<tr>
<td>Parking: Local car park finder directory; links to external providers - purchase season tickets online and City Car Club scheme - ‘pay by hour’ car hire scheme for residents &amp; businesses; parking fine appeals; parking fine payments; bus lane complaints, appeals, fines; online forms - representation, roads &amp; traffic enquiry, parking dispensation, street management; disabled parking; residents parking permits;</td>
<td>7</td>
</tr>
<tr>
<td>Streets, Roads &amp; Pavements: Problem reporting streets, pavements, cycleways, street lighting, traffic lights, street cleaning, abandoned vehicles, street nameplates; links to external websites for journey planning.</td>
<td>7</td>
</tr>
<tr>
<td>Transport: Taxis &amp; private hire cab complaint reporting; taxi rank listing; links to external websites - public transport journey planner, Metrolink, travel passes</td>
<td>5</td>
</tr>
</tbody>
</table>
### 3.2.3 Specific audience services

All MCC services are delivered via a structure of four departmental directorates or service areas:

- Neighbourhood Services
- Adult Social Care
- Children Services
- Chief Executive’s & Corporate Services

Neighbourhood Services is made up of a diverse selection of services that influence and change peoples’ lives across the city of Manchester. These services focus on Business Support, Environmental Strategy, Libraries, Highways, Private Sector Housing; Street Management & Enforcement including waste & recycling. Community Transport; markets and building cleaning fall within the Trading Service.
The Directorate for Adults, Health and Wellbeing provides and commissions social care support for over 20,000 Manchester residents, including older people, people with physical and learning disabilities, people with mental health needs, and carers of people with these needs. It also provides services for adults who are drug or alcohol-users, and people who are HIV positive. Housing related support for vulnerable adults is also provided.

Children’s Services is responsible for delivery of services to children, young people and families in Manchester including social care, youth, early years and education services. It works closely with other agencies to protect and safeguard children and young people.

Chief Executive’s and Corporate Services provide the core functions of the city council. This includes City Solicitor; Communications; Performance and Regeneration Divisions. Corporate Services works across all the other directorates and is responsible for overseeing and helping direct the economic and effective use of resources. Services include Audit & Risk Management; Corporate Procurement; Property; Capital Programme; Financial Management; Revenues & Benefits and Share Service Centre.

Manchester City Council adopts a ‘joined-up’ approach to providing services at district level working with all sectors of the community. Services are provided for general residents, parents and young families, young people, elderly and other vulnerable groups, job seekers, business sector, leisure and tourism sector, voluntary sector organisations and other agencies.

### 3.2.4 Available channels to access the existing services

The city provides services over six communication channels:

- **Person** – a visit to the authority’s premises
- **Telephone** – calls to a central number for redirection or to individual service providers
- **Email** – officers may be contacted direct in some instances; in others a generic service email is available
- **Letter** – information or services requested via letter
- **Website** – information via the Internet. The city’s website [www.manchester.gov.uk](http://www.manchester.gov.uk) provides portal entry to online services available.
- **Digital TV services** – via cable TV services accessed via your remote control. The service is also available on any web-enabled mobile phone, Nintendo Wii or PC. Allows user to report to a number of services and source/request information.
- **Social Networking** – Twitter and Facebook provides up to date information for events promotion, news and signposting to other website links.
The preferred chosen method for contacting the council is via the web\(^6\) closely followed by email as the second preferred option.

Over the twelve-month period to October 2011, 291,775 telephone transactions took place in relation to Environment Services. This is the third most popular communication channel representing about two-thirds of the overall calls and ‘face to face’ transactions for this particular service.

The fourth preferred option is ‘face to face’, residents making visits to central or district offices, which account for approximately 41,836 transactions over the same period, for Environment Services.

The Council is quickly building a following on Twitter with approximately 8,700 followers and 1100 Facebook fans. This is an opportunity for people to have their say and the Council to promote events and services. News items and links are also listed and blogs from the Leader of the Council and other members are available to read. Twitter is updated several times a day with relevant news items, events promotion and additional web site links.

### 3.2.5 Current IT infrastructure

The Manchester City ICT Business Plan 2011-2017 details the aspirations and plans for the authority’s development of ICT. Three key statements are relevant to EPIC.

- ICT must understand and exploit new technologies such as virtualisation and the cloud to support innovation and efficiencies within the Council and its partners.

- ICT can then focus on improving IT literacy throughout the organisation, engaging teams and our partners on the future technologies and how they can deliver and support residents and businesses in the city.

- An end user computing review will be undertaken and is an opportunity to trial new ICT solutions to support neighbourhood and mobile working in priority service areas in Directorates.

Technology services within the Council have historically been regarded as a technical ‘support utility’ and have tended to focus on internal functional issues such as security and reliability. However, over the last year a substantial amount of work has been done to transform the service including a major transformation redesign both internally and externally.

The service supports approximately 9000 customers of ICT hardware and software across the council, handling over 120,000 support calls per annum. The ICT Service

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\(^6\) SOCITM
\(^7\) MCC ICT Business Plan 2011-2014
Desk provides a first point of contact for MCC staff and receives over 8,000 calls per month and approximately 2,500 emails requesting service.

Current customers of the service include all employees and internal MCC services, elected members, partner organisations such as health services along with members of the public using the council’s website. The service has a small number of external customers including housing trusts, sports and leisure and traffic penalties. Access to online services is also provided via public computers based in local libraries and community provision.

The MCC ICT service is focused on three areas:

- Improving security
- Improving customer service
- Enabling transformed service areas, including new desktop computers & VoIP digital telephony services
- Self service facilities for residents at the Customer Service Centre.

The Customer Service Centre went live June 2010 with a new Customer Records Management system (CRM), designed to provide the Council with a single view of its customers and make interactions with residents more efficient and more helpful to the customer, with officers able to provide advice across a range of areas, accessed via the CRM system. Work is also underway to support the move towards flexible and mobile working across the Council. The service will support the transformation across the Council and provide services with the necessary tools.

A digital users group operates participants at a senior level across the Council. The group acts as a critical friend to the ICT Service, providing information and advice around the application of social media in improving access to council services for residents.

User provision ranges from PCs and ‘thin client terminals’ to more mobile systems such as BlackBerry’s, digital telephony that ‘follows’ users, laptops and iPads. iPads are currently being piloted with the elected members and senior managers across the Council. Desktop working has been standardised by the rollout of CITRIX and Wyse terminals updating the provision of desktop computing to users.

In order to enable effective use of ICT and the new ways of working and support the smooth running of the Council’s systems, the service is focusing on redevelopment of its data centre’s to lower cost operations and provide faster and more reliable development; improved ability to share and manage data and improved disaster recovery and business continuity. The potential relocation of the key data centre provision and consolidation of other services will provide the opportunity for discussion with partner organisations to examine the potential of sharing data resources to reduce costs and create efficiencies. Future data centres will focus on cloud computing.
With more applications hosted 'in the cloud' it is important that the Internet is viewed as a third data centre with access and bandwidth increased, and the capacity and capabilities of the internet factored into future planning.

Improvements in Wide Area and Local Area Networking will take place to improve reliability and sustainability of the system. The aim is lower cost operations; a quicker working environment, improved Internet access and greater flexibility in changing buildings and infrastructure.

The telephony system is a mix of modern digital systems and analogue facilities across the Council. ICT services are preparing a business case to develop a cost effective, modern, secure and fit for purpose telephony infrastructure for both digital and mobile communications. The integration and development of current telephony services will result in lower operational costs, improved reliability and facilitate flexible and mobile working.

The SAP system was adopted and introduced by Manchester City Council in 2006 and is integral to operational working. The core system supports finance; human resources and management functions within the organisation. SAP has been configured to meet the needs of the city and further upgrades and extension of the software are planned to provide a better user experience.

The authority has invested heavily in a new CRM. The system supports a single view of customers and neighbourhoods, and facilitates improved information sharing and businesses planning, to ensure services are fully responsive to their customers’ needs.

The delivery of CRM Phase 1 was completed earlier this year and went live with the opening of the new Customer Service Centre. Since that date it has supported business processes for council services and provides guidance and information on the remaining services that are not handled directly by the system. The second phase of CRM will provide assurance around the system meeting user needs and levels of user satisfaction.

In other developments Manchester Digital Development Agency (MDDA), part of MCC is in the final phase of building an open access fibre network along the 3 sq kilometre area of central Manchester to connect several hundred businesses and residents. The fibre to the home/business network will form a pilot test bed to stimulate the development of next generation products and services, tested by the residents and businesses connecting to the network. The network is due to be lit in April 2012. The development of the fibre network will enable Manchester to take advantage of the additional economic opportunities, stimulating the growth of new business and the trialling of new ways of working resulting in the creation of new employment opportunities for residents.
3.2.6 Conclusion

The above outline of ICT services in Manchester clearly points out that the city is deploying a proactive presence on the web that covers a wide range of services. Moreover, on the level of types of interactions, there is a significant number of services applications on different domains that allow citizens and businesses to do online transactions of all kinds. Secondly, ICT services are developed for different categories of the general population. Thirdly, the city is active via different channels and making use of the Internet (web and email) to contact the city is the preferred method among its population.

Finally, on the level of infrastructure, the overview demonstrates that Manchester wants to on the one hand implement a pro-active policy that aims to exploit the potential of newest Internet technologies - like the virtualisation or the cloud - and on the other hand is aware about taking the necessary steps to obtain and sustain an effective ICT infrastructure. In this way, Manchester is a fruitful niche for EPIC and the Smart Environment Service is a good incentive for the initiation and further development of smart city solutions.
### 3.3 Relocation Pilot / Brussels

Belgium is a federal state comprising three regions, three communities and three language areas. The three regions are Brussels Capital Region, Flanders and Wallonia. The three communities are the Dutch speaking ‘Vlaamse gemeenschap’ (Flemish Community), the French speaking ‘Communauté Française’ (French Community) and the German speaking ‘Deutschsprachige Gemeinschaft’ (German Community). The three language areas are the Dutch speaking area, the French speaking area and the German speaking area, which are all monolingual. The Brussels language area, which has the same borders as the Brussels Capital Region, is bilingual (French and Dutch).

Since the geographical scope for which the relocation service will be developed is delimited by the borders of the Brussels Capital Region, it is important to acknowledge that due to the political administrative organisation of Belgium, three public authorities have each certain well-defined competences over this whole territory (i.e. the Brussels Capital Regional authority for regional competences for all citizens living within confines, the Flemish Community Commission for community competences regarding Dutch speaking citizens within the territory of the BCR, the French Community Commission for community competences regarding French speaking citizens within the territory of the BCR) and each of the nineteen communities within this territory have municipality competences for the confines of the territory.

Consequently, in giving an overview of the ICT-services in the city and discussing their typology, specific audience services, available channels and IT infrastructure, we have to make a distinction between:

- ICT services emanating from the Brussels Capital regional authority and its various official instances (BCR from now on)
- ICT services emanating from the Flemish Community Commission and its various official instances (VGC from now on)
- ICT services emanating from the French Community Commission and its various official instances (COCOF from now on)
- ICT services emanating from each of the 19 communes.

The BCR has about one million inhabitants (1 January 2010: 1,089,538). Taken into account their nationality at birth, 46% of BCR’s residents are of non-Belgian origin. The number of officially registered foreigners in the strict sense of the word totals 30% of the Brussels population (1 January 2010: 327,000).

Citizens coming from the other 27 European Union member states represent the largest group of foreigners in Brussels (181,655 or 60% of non-Belgians). With 46,006 residents, the French have represented the largest foreign population group for a few years and are more numerous than the Moroccans. The French are also the most numerous within the EU 27, followed by the Italians (26,000), the Spanish (19,000), the Portuguese (16,000) and the Polish (15,000).
Other EU nationalities that are largely present in BCR are Germans, Dutch, Greeks, Romanians and people from the United Kingdom (between 5,000 and 10,000). The number of residents from the remaining other member states varies between 1,000 and 3,000 (Austria, Bulgaria, Finland, Denmark, Hungary, Ireland, Luxemburg, Sweden) or less than 1,000 for small member states like Czech Republic, Slovakia, Malta, Cyprus, Lithuania, Latvia and Estonia).

The largest commune in number of inhabitants within the region is the City of Brussels with around 148,000 inhabitants. Regarding the distribution of EU nationals over the 19 municipalities, the city of Brussels is the most popular with 24,349 residents. Apart from Brussels, the most popular communes are all in the vicinity of the European institutions and situated in the east and southeast areas of the Region: Ixelles (23,979), Etterbeek (12,328), Schaerbeek (16,746), Uccle (16,410), Woluwe Saint-Lambert (10,854) and Woluwe-St-Pierre (9,010). Communities situated in the west and northwest of the BCR are scoring significantly less in total numbers: Berchem – Saint- Agathe (1,828), Ganshoren (1,854), Jette (3,881) and Koekelberg (2,334).

3.3.2 Typology of ICT services

Table 3 below provides a comprehensive summary of the e-services provided by the four types of authority in the BCR:

- Services by the BCR authority
- Services by the Flemish Community (VGC)
- Services by the French Community (COCOF)
- Services by the 19 communes
- Services the City of Brussels. We take this commune separately since as it is the only commune until now that has created a mobile application that offers certain services to citizens having a smartphone.

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8 The numbers of residents from the European Union member states come from the official population counting of the FPS-Directorate-General Statistics and Economic Information http://statbel.fgov.be/fr/modules/publications/statistiques/population/nationalite_actuelle_de_la_population_par_commune.jsp
<table>
<thead>
<tr>
<th>BRUSSELS SERVICES ANALYZED</th>
<th>TYPES OF INTERACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INFORMATION &amp; LINKS</td>
</tr>
<tr>
<td></td>
<td>TO EXTERNAL WEBSITES</td>
</tr>
<tr>
<td><strong>Services BCR- authority e-Government:</strong></td>
<td></td>
</tr>
<tr>
<td>online access to official documents (parliamentary documents from BCR parliament, publications from regional institutions and agencies) - demand permits - file complaint about services from the Ministry of the Brussels Capital Region - documents regarding the activity of the parliament of the BCR - texts and law decrees of the BCR, the federal government and the communes – public space maintenance and development projects</td>
<td>0</td>
</tr>
<tr>
<td><strong>Daily life citizens/ Environment:</strong></td>
<td></td>
</tr>
<tr>
<td>Complain about road traffic and public transport noise – complain against aircraft noise – complain about the non-respect of the no-advertising sticker – complain about garbage collection – complain about pharmacies refusing to take in old medicines - find waste collection day for a street – find nearest bottle back – find out day and place of Proxy Chimik household chemical waste service – check pollution in BCR</td>
<td>0</td>
</tr>
<tr>
<td><strong>Daily life citizens/ Taxation:</strong></td>
<td></td>
</tr>
<tr>
<td>Request information, payment instalments or exemption from personal regional tasks</td>
<td>0</td>
</tr>
<tr>
<td><strong>Daily life citizens/ Housing:</strong></td>
<td></td>
</tr>
<tr>
<td>Attestation of safety for landlords – apply for safety inspection for landlords– apply for safety certificate for landlords – renovation and energy-saving advice – moving home – registration duty – affordable housing – environmental permit – planning permission – fire prevention – façade beautification grant – energy grant – renovation grant</td>
<td>0</td>
</tr>
<tr>
<td><strong>Daily life citizens / Public transport:</strong></td>
<td></td>
</tr>
<tr>
<td>Plan journey with public transport – time tables bus, tram and metro – bus, tram and metro network map – real time situation and waiting times for bus, tram and metro – lost property – make complaints – share comments and give suggestion to public transport company – buy public transport tickets</td>
<td>0</td>
</tr>
<tr>
<td><strong>Daily life citizens/ Safety:</strong></td>
<td></td>
</tr>
<tr>
<td>Complain about vandalism and theft – tell police about your absence – firearm licensing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Business in BCR:</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Draw up a business plan – recruit staff (publish job vacancies, find audio-visual professionals) – buying, selling and setting up a business – transport and freight – 1adapt business to environmental requirements – funds, grants and subsidies</td>
<td>0</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>Working in BCR:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Looking for work – social economy-enterprises – permits, licences and authorisations for professional and economic activities – taxes and duties</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Education and training:</strong></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Courses and jobs in the ICT sector</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Culture, Leisure &amp; Tourism:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourist information – internet facilities – eating, drinking &amp; nightlife – shopping – Green Brussels – cultural activities</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Services by the Flemish Community (VGC) e-Government:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E-office with applications for various grants by the VGC</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Daily life citizens/ Housing:</strong></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Find property to buy or rent in BCR</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<thead>
<tr>
<th><strong>Education:</strong></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Find and localise Dutch speaking schools in BCR – adult courses organised by the Flemish Cultural Community Centres in BCR</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Welfare and health:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Find doctor, dentists, nurses, organisations etc... in BCR</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Services by the French Community (COCOF) Education:</strong></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Find French speaking primary and secondary schools in Brussels – parascolastic pedagogic activities – animation and school projects – permanent education</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Social affairs and welfare:</strong></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Social cohesion – help at home – daytime centres – social action centres – planning centres – familial planning centres – welcome homes – retirement homes – habitation protégés – hospitals – palliative services – medical services at home – handicapped persons</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
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<thead>
<tr>
<th><strong>Family and youth:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing up in Brussels - Jeunesse</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Culture and recreation:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>EMPLOYMENT:</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional schooling for adults – schooling for SME’s</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
### 3.3.3 Specific audience services

**The expat in Brussels as a non-specific target audience from an ICT stance**

As stated and elaborated more in detail in EPIC D7.1 *Pilot Operations Plan*, we define an expat as a citizen that possesses the nationality of one of the member states of the EU, who moves to Brussels for professional reasons and its future profession is either in international institutional organisations (EU, NATO, Eurocontrol, UN, etc.), various lobbying organisations to these international institutions (regional representations, international trade union organisations, international professional organisations, NGO’s etc.), international companies with headquarters or seats in Brussels Capital Region (Coca Cola, Boeing, etc.), educational sector (international schools, European schools, universities and research centres) and journalists.

As such, none of the public authorities operating within the territory of the BCR provide a specific ICT service that is only dedicated to expats. Only the Brussels Capital Region provides attention to expats in two ways.

First, on its portal site ([www.brussels.irisnet.be](http://www.brussels.irisnet.be)), a special section called ‘Expats’ under the broader them ‘Living in Brussels’ is dedicated to expats ([http://www.brussels.irisnet.be/living-in-brussels/expats?set_language=en](http://www.brussels.irisnet.be/living-in-brussels/expats?set_language=en)). Besides general information in textual form about settling and living in Brussels, it provides links to some of the in the previous section described ICT-services or websites of the institutions or agencies that host them and that assists expats with settling and organising their daily life in Brussels Capital Region.

Second, The Brussels-Europe Liaison Office ([www.blbe.be](http://www.blbe.be)), the official welcome agency of the Brussels Capital Region and has among it tasks to offer administrative and practical assistance to people coming to work in the international institutions or organisations, has on its website the section ‘Brussels in practice’ ([http://www.blbe.be/en/brussels-practice](http://www.blbe.be/en/brussels-practice)) with all kind of practical information.

---

**Table 3: Summary of e-services provided by the city of Brussels**

<table>
<thead>
<tr>
<th>Services by the 19 communes</th>
<th>0</th>
<th>1</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Government:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online access to official documents produced by the communes and some of its instances – demand of certificates, permits, extracts and grants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irisbox: all communes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other documents (City of Brussels, Saint-Gilles, Koekelberg, Saint-Josse-ten Node)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of BRUSSELS:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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and explanations about living in Brussels for expats (residence formalities, working in Brussels, housing, education, children, health care, finances and insurance, transport, voting rights). It provides links to some ICT-services mentioned above or to the home page of the official agencies and institutions that provides these services.

Generally speaking, despite these two initiatives, we can conclude that expats have to make use of ICT services that are developed for the whole population - or specific audience groups within it - of the BCR or for a separate commune – and different audience groups within it.

Specific audience services useful for expats when relocating and settling in Brussels

In this section, we briefly outline the different specific ICT-services that from a relocation point might be useful for expats moving to and settling in BCR. We can detect five type of audiences to which specific services are targeted:

(1) the general citizens
(2) citizens wanting to establish a business in BCR or finding a job
(3) children
(4) adult education
(5) citizens looking for property to live
(6) citizens seeking medical care

Within these four audience categories, we focus on the one hand on aspects of these ICT-services that are useful when exploring Brussels to find a place to live to meets his demands and on the other hand of aspects that helps him with further settling in the BCR after having found a certain property. Since this overview is quite extensive and different kind of services are offered (ranging from e-government to culture), we present first a table that provides an overview of the name of these various services. The categories refer to the following information types, provided in the table below:

> Audience type= target audience of service
> Domain of service= in which category can the service be used
> Name of service= name giving by the organisation that provides services
> Authority= Public authority that is responsible for the service
> Relocating: ICT-service useful when starting relocation process
> Living= ICT-service useful when settling in in BCR
Also, if the reader wants to have more information, we elaborate for each type of audience and service in detail what benefit it offers to expats moving to Brussels.

<table>
<thead>
<tr>
<th>AUDIENCE TYPE</th>
<th>DOMAIN OF SERVICE</th>
<th>NAME OF SERVICE</th>
<th>AUTHORITY</th>
<th>RELOCATING</th>
<th>LIVING</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL CITIZENS</td>
<td>E-GOV</td>
<td>IRISBOX- Region OPENBARE RUIMTE BRUSSEL/BRUXELLES ESPACES PUBLIQUES IRISBOX-commune</td>
<td>BCR</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ENVIRONMENT</td>
<td></td>
<td>BRUSSEL LEEFMILIEU/BRUXELLES ENVIRONMENT NET BRUXELLES/BRUXELLES PROPERTE</td>
<td>BCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>HOUSING</td>
<td></td>
<td>KOPEN IN BRUSSEL/ACHETER A BRUXELLES PRIME-RENOVATION/ RENOVATIEPREMIES</td>
<td>BCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>TRANSPORT AND GETTING AROUND</td>
<td></td>
<td>BRUSSEL MOBILITEIT/BRUXELLES MOBILITE GEOLOC STIB-MIVB BRUSSELS-TAXI</td>
<td>BCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CULTURE, SHOPPING, RECREATION</td>
<td></td>
<td>AGENDA VISIT BRUSSELS SHOPPING IN BRUSSELS MOBIEL BRUSSEL/BRUXELLES MOBILITE CULTURELE KALENDER GEMEENSCHAPSCENTRA</td>
<td>BCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 4: Summary of specific audience services in Brussels

<table>
<thead>
<tr>
<th>AUDIENCE</th>
<th>SERVICES</th>
<th>PROVIDERS</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITIZENS ESTABLISH BUSINESS OR SEEKING JOB</td>
<td>SETTING UP, REGISTERING AND MANAGING A BUSINESS IN BCR</td>
<td>STARTERKIT</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MY ACTIRIS</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRUSSELS FILM OFFICE</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INVENTIMMO</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRUCODEX</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRUSSELS GREEN TECH</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRUSSEL LEEFMILIEU/BRUXELLES ENVIRONMENT</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRUSSELS WAARBORG FONDS/FONDS BRUXELLOIS DE GARANTIE</td>
<td>BCR</td>
<td>X</td>
</tr>
<tr>
<td>FINDING A JOB IN BCR</td>
<td>MY ACTIRIS</td>
<td>BCR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>BRUXELLES FORMATION</td>
<td>COCOF</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHILDREN</td>
<td>SCHOOL</td>
<td>ONDERWIJS IN BRUSSEL</td>
<td>VGC</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENSEIGNEMENT</td>
<td>COCOF</td>
<td>X</td>
</tr>
<tr>
<td>ADULTS LOOKING FOR EDUCATION</td>
<td>SCHOOLING</td>
<td>DERIMIFOR</td>
<td>COCOF</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ESPACE FORMATION</td>
<td>COCOF</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TALENT MIX</td>
<td>VGC</td>
<td>X</td>
</tr>
<tr>
<td>CITIZENS LOOKING FOR PROPERTY TO LIVE</td>
<td>RENTING/BUYING PROPERTY</td>
<td>WONEN IN BRUSSEL</td>
<td>VGC</td>
<td>X</td>
</tr>
<tr>
<td>CITIZENS SEARCHING MEDICAL CARE</td>
<td>MEDICAL CARE – FIND PRACTITIONERS</td>
<td>ZORGBANK</td>
<td>VGC</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GUIDE SOCIALE</td>
<td>COCOF</td>
<td>X</td>
</tr>
</tbody>
</table>

(1) Services for general citizens:

In accordance with the typology provided in the previous section, services that are targeted to general citizens can be subdivided into five themes: a) E-Government; b) Environment; c) Housing; d) Transport and getting around; and, e) Culture, shopping and recreation. These are explained in greater detail next.

A) E-Government:

IRISBOX:

Every expat from a EU-member state who has found a residence in the BCR must register himself in the municipality where his residence is located. After having
done the necessary formalities, he will be inscribed in the Alien Register of the municipality, gets a national number and receives an electronic temporary stay permit. With this e-permit, he can have access to IRISBOX. With this service the expat can access different official publications from the regional authorities and instances or the municipality (reunion of city and commune councils, brochures, parliamentary documents from Brussels regional parliament etc...), demand interactively from the Regional authorities or the municipality different kind of permits, attests and certificates (environmental permits, housing regulation, certificate of residence, proof of living, declaration of address change, resident parking permits etc...), file complaint about the services of the Ministry of the Brussels Capital Region and get information about communal taxes in a specific municipality.

OPENBARE RUIMTE BRUSSEL/BRUXELLES ESPACES PUBLICS (Brussels Public Spaces):
Interactive map provided by the BCR on which an expat, when looking for property, can see the future, current or just finished public spaces works regarding squares, plantations, roads, metro stations and tunnels. In this sense he or she can, when selecting property, take into account future or current renovations of the area in which his future residence will be located. When settling in Brussels, he’s of course aware of future projects that might influence the area in which he lives.

B) Environment

BRUSSEL LEEFMILIEU/BRUXELLES ENVIRONMENT [Environmental Brussels]:
The ICT-services offered under this name by the Brussels Institute for Environmental Management allow citizens firstly to discover the quality of the air in different areas in the BCR, secondly to file complaints regarding (a) road traffic and public transport noise, (b) noise nuisance by neighbours, (c) non-respect of the no-advertisement sticker and (d) the services of the garbage collection regarding the area where he has his residence in the BCR and thirdly to apply for various energy grants in order to reduce the energy consumption in one’s estate. For the expat relocating to Brussels, the first service offers the advantage that he or she can pick out areas in BCR in which to find property that meets his demands regarding air quality. The second and third types of services are more useful when the expat has found a property and is actually starting his settling process in Brussels. The ability to complain about environmental inconvenience enables him to improve the quality of his daily life while the third application is useful when he has a house and wants to contribute to a healthier environment in Brussels.
NET BRUSSEL/BRUXELLES PROPERTE [Clean Brussels]:
An expat can find in an online databank information about the day of waste collection in the street of a property that interests him and see where the nearest bottle bank is. He can also find on a form when the chemical waste services passes by.

C) Housing

KOPEN IN BRUSSEL/ACHETER A BRUXELLES (Buying in Brussels):
An expat wanting to buy a house or flat instead of renting when relocating to Brussels has to pay a registration duty. This tool helps him calculate the registration duty.

PRIME-RENOVATION/RENOVATIEPREMIES (Renovation grants):
When an expat has become the proprietor of a house, he can apply for grants for renovating the façade of his house or renovate the entire property.

D) Transport and getting around in BCR

BRUSSEL MOBILITEIT/BRUXELLES MOBILITE [Brussels Mobility]:
This real time interactive map that allows the expat when seeking a place to live to discover the availability of public transport stops (tram, bus, metro, train), biking repair spots, bike rentals place (Villo) , taxi stops, cambio (car pooling) stops and parking spots in a certain area in the BCR. When settled in his new house or apartment, this map gives him, besides an overview of means of mobility in his area, also real time information about traffic jams and road works in the BCR. In this way, getting around in the BCR will be more fluently.

GEOLOC;
This map of the BCR enables citizens to plan his route within the BCR, find and display an address on the map and to plan a journey in Brussels. In this way, an expat can see where his workplace is located and what the shortest way is to get there from the property that meets his demands. When settling in Brussels, it helps him to find the way to certain places he has to attend.

STIB-MIVB (Public Regional Transport):
The ICT-services of the public transport company makes it possible for an expat to explore in detail the metro, bus and tram network as well as the timetables of the metro, bus or bus lines that he needs to take to go to his work from the property/properties that interest him to live in. While exploring Brussels in order to make a better housing judgment or living in Brussels, the online real time application makes it possible to see how long he has to wait for a bus, metro or tram in order to reach the wanted destination. After having procured a Belgian bank account, the online BOOTIK service makes it possible to buy the suited transport ticket or yearly or monthly subscription from his home and get his electronic access card to Brussels public transport.

BRUSSELS TAXI:
This ICT-service is helpful for an expat when on his exploration tour through Brussels when finding a property that suits him or when he settled in, to make a complaint about a taxi or report the loss of an item in one taxi.

E) Culture, shopping and recreation

AGENDA:
Is the official online agenda of different cultural activities happening in the BCR. Useful tools for expats to explore which kind of activities are taking place in the different venues in Brussels.

VISIT BRUSSELS:
Allows expats to find in a list a restaurant, bar, pub, night venue, hotel, library or museum and locate it on the map of BCR or by means of geo-location to discover the nearest of these facilities around him. Visit Brussels provides also a list of the weekly markets in the different municipalities as well as a list of the most important cultural events. Finally, it allows also for booking hotels. For expats it can thus be a useful tool for discovering these different cultural and recreational facilities and help him to choose a property in their neighbourhood. When living in Brussels and about to discover the city, it is a useful resource for keeping up to date with what is happening in Brussels on the cultural level.

SHOPPING IN BRUSSELS:
Interactive map and database that allows citizens to discover the different shopping area’s in the BCR and the different shops (going from fashion to household equipment). For expats it is thus helpful when looking for property to see the shopping facilities in the neighbourhood of his selected houses or apartments. When settled in Brussels, it allows the expat to look for specific shops.
MOBIEL BRUSSEL/BRUXELLES MOBILITE (Brussels Mobility):
This map is useful for expats since it displays the bike routes within the BCR. If he wishes to go to work by bike, he can thus discover the safest bike route. When living in Brussels, it provides interesting bike route to discover the agglomeration.

CULTURELE KALENDER GEMEENSCHAPSCENTRA (Cultural agenda of the Flemish Community Centres):
Online database of the cultural activities organised in the 22 cultural centres of the Flemish Community. Useful for expats to know what kind of activities that are organised in the evening in these centres in order to know the cultural life in their commune where the centre is localised.

(2) Services for citizens about doing business and working in BCR
Some ICT-services are useful for expats that move along with their spouse. Not much concrete information is known about how many partners move along and what they do professionally. While in some cases, the spouse of the expat might decide not to work, in other cases they do. Some work also in the European/international sector, but as mentioned, concrete hard figures are not available. From a relocation point of view, some ICT-services that are developed by the authorities and agencies of the BCR might be helpful for expats whose spouse wants to set up their own business or find a proper job in Brussels.

A) Setting up, registering and managing a business in BCR

STARTERKIT:
This service set up by the Brussels Enterprise Agency helps individuals to set up their private enterprise in the BCR. It gives the opportunity for the partner of the expat to set up his or her own business and financial plan via an online-tool.

MY ACTIRIS:
This ICT-service provided by ACTIRIS, the Brussels Regional Public Employment Office, gives employers the opportunity to place their job offers in an online database. For an expats partner who establishes his or her own business in BCR, it is thus helpful to recruit employees.

BRUSSELS FILM OFFICE:
This organisation is useful for expats for two reasons. In the first instance, it has two interesting databases for expats or their partners working in the film sector. First, people having their business in the film sector can recruit audio-visual professionals in the BCR. Secondly, it allows people from this sector to look for specific locations in BCR. Secondly, it provides downloadable forms by means that people can apply for financial assistance from the BFO for their projects.

INVENTIMMO:
This online database provided by the Brussels Regional Developmental Agency makes it possible to search for different kinds of business property for sale or lease in the BCR and their specific location. It is thus helpful for expats partners to find an office or property for physically establishing their private business.

BRUCODEX:
This tool initiated by the Brussels Enterprise Agency provides an up to date online database about the environmental and planning legislation in the BCR. It is thus useful for expats to consult in order to beware of the latest legislation being in place in BCR.

BRUSSELS GREEN TECH:
This service, set up by the Brussels Enterprise Agency, gives information and a useful database for support for environmental technologies.

BRUSSEL LEEFMILIEU/ BRUXELLES ENVIRONMENT (Environmental Brussels):
The Brussels Institute for Environmental Management supplies with this service for business in the BCR online applications for energy grants and forms for conforming to the environmental procedures relating to its economic activities.

ECOSUBSIBRU:
ICT-service set up by the Brussels Enterprise Agency in which by means of a database enterprises can find the various kinds of financial assistance available in the BCR.

BRUSSELS WAARBORG FONDS/ FONDS BRUXELLOIS DE GARANTIE (Brussels Warranty Fund):
This fund provides downloadable forms to apply for a loan guarantee for a business, with also special attention for starters. It can therefore be very useful for expats who start their business in the BCR.
B) Finding a job in the BCR

MY ACTIRIS:
This service provided by ACTIRIS, the Brussels Regional Public Employment Office, helps unemployed people to put their CV online in a database, to register online as unemployed and consult a database of job vacancies in the BCR. For expats whose partner is looking for a job or who after a while has to be inscribed in the Belgian unemployment system, this is a necessary service for organising daily living in the BCR.

BRUXELLES FORMATION (Brussels Training):
This service by the COCOF is for people who are searching a job in the Brussels Capital Region. It gives an overview of job offers and schooling possibilities. For an expat partner looking for a job it can be a useful tool.

(3) Children looking for education

ONDERWIJS IN BRUSSEL (Education in Brussels):
Expats who are not sending their children to an international school or European schools in Brussels, can find in a database provided by the VGC the different Dutch speaking primary and secondary schools in Brussels.

ENSEIGNEMENT (Education):
In the same case as above, expats can explore in a database provided by the Federation Bruxelles-Wallonie the French speaking primary and secondary schools in Brussels.

(4) Adult education:

DERIMOFOR:
Database by the COCOF disclosing all kinds of adult formations classes in the Brussels Region.

ESPACE FORMATION PME (Training space for SME):
Database by the French Community that discloses for expats partners that are
having a PME in Brussels additional courses.

TALENT MIX:
Database by the Flemish Community Centres displays all their courses and activities for adults. Interesting for expats since the Centres organise courses Dutch for non-Belgians in order to help them with their integration in Brussels and Belgium.

(5) Citizens searching for property to live

WONEN IN BRUSSEL (Living in Brussels):
The Flemish Community Commission (VGC) has initiated this ICT-service that allows owners of property to place their advertisement for buying or renting. From a relocating expat point of view, it is of course useful since it discloses property in BCR. On the other hand, the service is only in Dutch, so not user friendly for expats not mastering the Dutch language.

(6) Citizens looking for medical care or other welfare help

ZORGBANK (Welfare Database):
Online database by VGC with addresses of all kinds of medical practitioners and institutions on Brussels: useful for expats when they look for a house or flat and have special needs to know where the nearest practitioner is situated.

GUIDE SOCIALE (Social Guide):
Database and overview of services on all social and welfare aspects provided by the COCOF: useful for expats to know whether in the area they want to find property, they have certain medical service in its neighbourhood or not.

3.3.4 Available channels to access the existing services
The existing ICT services provided by each of these public authorities can be accessed via different channels. The table below presents an overview of the channels different public authorities use.
We distinguished the City of Brussels from the other communes since up to now, it is the only one that tries to offer services to its citizens via other channels than just its website. This is followed by a further elaboration of what ICT services are provided via which channels by each of these authorities.
We first present below the channels from the BCR, the VGC and the COCOF whose authority stretches over the whole territory of the Brussels Capital Region (1.). Second, we discuss the channels provided by the communes who only govern over a part of this territory (2.).

1.) Channels of the BCR, VGC and COCOF

We first present here the portal site as a main channel that each of these three authorities have and then present for each authority the other specific channels they offer for their ICT -services.

**Portal site**

The Brussels Capital Region, the Flemish Community Commission and the French Community Commission have their own portal site that provides the links.

- For the Brussels Capital Region: [www.brussels.irisnet.be](http://www.brussels.irisnet.be)
- For the Flemish Community Commission: [www.digitaalbrussel.be](http://www.digitaalbrussel.be) and [www.vgc.be](http://www.vgc.be)
- For the French Community Commission: [www.Cocof.irisnet.be](http://www.Cocof.irisnet.be)

Each of these portal sites not only provides links to the services these institutions or some of their organisations and agencies have developed. They also display some
links to services provided by the others. For example, on the portal site of the Brussels Capital Region, links to the database of Flemish speaking schools (kindergarten, primary and secondary schools) are available. The portal site of the VGC provides links to services from other instances that touches upon its cultural competences like the official cultural agenda provided by the region. Nonetheless, this providing of links to services emanating from the other public authorities is not done in a very systematic way.

A) Brussels Capital Region:

(1) websites of regional instances, organisations and agencies:

- STIB-MIVB (Society for Intercommunal Transport): site for access to services regarding public transport: www.mivb.be
- GOMB-SDRB (Society for the Regional Development of Brussels):
- ACTIRIS (Brussels Regional Public Employment Organisation): www.actiris.be
- BRUGEL (Regulator for Gas and Electricity in BCR): www.brugel.be
- BIM-IBGE (Brussels Institute for Environmental Management):
  www.leefmilieubrussel.be
- VISIT BRUSSELS: ICT-services concerning booking hotel in BCR, finding restaurants, bar and night venues: www.visitbrussels.be
- FILM OFFICE: audiovisual related ICT-services: www.bruxellestournage.be

(2) Specific portal sites of the BCR:

- BRUSSEL MOBILITEIT-BRUXELLES MOBILITE (Brussels Mobility):
  http://www.mobielbrussel.irisnet.be/
- BRUXELLES ESPACES PUBLIC-OPENBARE RUIMTE BRUSSEL (Public Spaces in Brussels):
  http://www.openbareruimtebrussel.irisnet.be/
- BRUTRADE – Portal for takeover of business in Brussels:
  www.brutrade.be

(3) Specific websites dedicated to specific regional grants or duties:

- Renovation and façade beautification grants: http://www.primes-renovation.be/embellisement.php
- Calculating of registration duty when buying a house: http://www.acheterabruxelles.irisnet.be/
- Trade in of car: http://www.brusselair-premie.be/premie.pdf
- Green technology: BRUSSEL Green tech: www.brusselsgreentech.be

(4) Other websites for ICT services relating to:

- Shopping districts: SHOPPING IN BRUSSELS: http://www.shopinbrussels.be/
- Mobility and transport:
  - GEOLOC: finding your way around in Brussels: http://geoloc.irisnet.be/
  - Taxi: www.brusselsstaxi.be
- Regional self-service bike renting VILLO: [http://en.villo.be/](http://en.villo.be/)
- Car sharing CAMBIO: [www.cambio.be](http://www.cambio.be)
- Port of Brussels: [www.portofbrussels.be](http://www.portofbrussels.be)

**5) Some services are already fully or partially available via applications for smart phone or PDA’s:**

- VISIT BRUSSELS (iPhone): database with pubs, restaurants, hotels, museums and cultural activities is Brussels located on a map or via geolocation in your neighbourhood.
- MIVB –STIB (iPhone and Android): real time situation of bus, metro and tram

**6) Wifi Internet-access:**

- URBIZONE: hotspots at campus ULB-VUB, the cabinets of the ministers and secretaries of state of the region, the buildings of the CIBG-CIRB, the domain of La Tour de Freins, the regional administration of Foreign Trade and five campuses of high schools within the territory of the BCR

B) VGC:

**1) Specific websites dedicated to one service:**

- Electronic office (Digitaal loket) for selecting subsidies, asking cultural vouchers and possible online applications or downloadable forms: [www.vgc.be](http://www.vgc.be)
- Finding property to rent or buy in Brussels: WONEN IN BRUSSEL (Living in Brussels): [www.woneninbrussel.be](http://www.woneninbrussel.be)
- Find a school: [www.onderwijsinbrussel.be](http://www.onderwijsinbrussel.be)
- The cultural centres of the Flemish Community for finding courses and cultural activities: [www.gemeenschapscentra.be](http://www.gemeenschapscentra.be)
- Welfare: database with practitioners and institutions in Brussels: [www.zorgzoeker.be](http://www.zorgzoeker.be)

C) COCOF

**1) Specific website dedicated to one service:**

- Adult training opportunities: [www.dorifor.be](http://www.dorifor.be)
- Help for unemployed: [www.bruxellesformation.be](http://www.bruxellesformation.be)
- Find a school: [www.enseignement.be](http://www.enseignement.be)
2. Channels of the 19 communes

The 19 communes share one common service, IRISBOX. We first illustrate with which channel they provide access to this service. Then we present the channels the city of Brussels offers for some of its ICT services other municipalities don’t offer yet.

19 municipalities

(1) Municipality home website:

Every of the nineteen communes have their own website, providing a link – designated as electronic office – to the IRISBOX services they offer to their inhabitants. The communes that offer additional documents and forms to download do this via their website.

The city of Brussels and the commune of Koekelberg have also a mobile phone friendly version of their website so smartphone users can access it their website appropriately.

City of Brussels

(1) Mobile application:

The city of Brussels is until now the only municipality within the BCR that allows citizens to access service via an application for a mobile device.

(2) QR-codes:

The city of Brussels is also the only one that allows users with a smartphone to get extra information about important buildings (administrative buildings, libraries, town hall etc…) by means QR-codes placed at their entrance.

3.3.5 Current IT infrastructure

The Brussels Capital Region and its authorities can use the EPIC platform and the relocation service on an infrastructural level. This can be shown by the existence and the working of the Regional Informatics Centre (CIBG – CIRB) and the development of the telecommunication network IRISNET. Both illustrate clearly that the Brussels Region and the different authorities within it have clearly shown their dedication to become prominent players in ICT development and hold a top position in the list of European cities regarding ICT infrastructure. 9

Brussels Regional Informatics Centre: motor of IT development for public authorities within the BCR.

CIBG is an Institution of Public Interest, founded in 1987, and has the mission to be the preferred partner in developing ICT-infrastructure and services of all public authorities, institutions and services situated in the territory of the Brussels Capital Region. On the level of the regional government, it has as mission to implement e-government. The Centre helps all those authorities to use information and communication technologies to facilitate their own tasks and for the benefit of everyone in Brussels: citizens, businesses and the self-employed, as well as the public authorities.

Currently, the CIBG works together with 250 public authorities (regional government, community as well as local communes: regional government, regional parliament, ministry of the Brussels Capital Region, regional agencies, para-regional institutions, communes, public welfare centres...), 550 primary and secondary schools, universities and high schools and all the Brussels public hospitals.

As a partner in the modernisation of the ICT-infrastructure and services of public authorities, institutions and public services its IT-service is built according to an integrated logic:

- regional broadband network IRISNET: telecom infrastructure
- data centre: powerful and secure layer
- sector specific and technical platforms: professional digital cartography URBIS and NOVA for urbanistic and environmental permits
- service to citizens: development of regional portal sites, websites of local authorities and services, electronic office IRISBOX...

In order to fulfil its mission, CIBG-CIRB has a team of more than 200 highly qualified members, holds a critical perspective on ICT via benchmarking of technologies and applications and if necessary CIBG participates in PP-partnerships.

The role and presence of CIBG and its 20 years of experience guarantees thus a technologically up to date approach to the development of the ICT-infrastructure and ICT-services in the Brussels Capital Region that meets the demands of public services. Moreover, CIBG-CIRB looks for synergies and common interests between different partners so that scale advantages can be obtained and the ICT-landscape will not be fragmented.

IRISNET: the successful network of the Brussels Capital Region

IRISNET1 - In 1995 the idea was uttered that the Brussels Capital Region needed a broadband network. A first preparatory study pointed out that such a network could from its launch made use of then existing infrastructure, being the tunnels of the underground and the existing optical fibre. On the other hand, the study remarked that the savings made by using a broadband network could be used to invest in the necessary applications for users of the net and further impulse programmes.
In 2000, the Brussels Capital Region signed a framework contract with the temporary association France Télécom/Telindus for a period of ten year in order to build and exploit IRISNET. After the expiration of this framework contract, the Brussels Capital Region becomes the owner of the complete infrastructure. The name IRISNET on the one hand combines the symbol of the region (an iris) with the notion of net that stands for network and on the other hand is the abbreviation for Interactive Regional Information and Services Network.

In the period of this framework contract, IRISNET was developed to support the following services:

- **Fix telephony and IP-telephony**: the network is powerful enough to support 2600 communications at the same time. Communications between IRIS-devices is completely free of charge;
- **Mobile telephony**: in 2009, 5600 sim-cards were in use which made IRISNET to be one of the three most important clients of the Telecom operator;
- **Mobile data**: this service offers clients the opportunity by means of wireless or wifi networks to get access to their professional data. This is useful for maintenance technicians that take care of installations from a distance and for collaborators that work from home;
- **Data transfer at a speed of 1 Mbps to 1 Gbps**: this speed guarantees a great flow of data and thus a high speed processing of data;
- **LAN-active network devices and outsourcing of management**: IRISNET can deliver, install and maintain a LAN. Its management can be outsourced and processed from a distance by means of the network. With subsidies from the regional authorities, CIBG managed to renew the LAN of all communes within the BCR;
- **The ministerial cabinets of the BCR**: they have all a LAN that is connected to IRISNET. A certain area of the LAN makes it possible to exchange easily minutes of meetings between ministers and their cabinets;
- **WIFI-services**: Since 2006, the wireless network URBIZONE is available on the campus of the ULB/VUB, the cabinets of the ministers and secretaries of state of the region, the buildings of the CIBG-CIRB, the domain of La Tour de Freins, the regional administration of Foreign Trade and five campuses of high schools within the territory of the BCR;
- **Connections with important suppliers of data** like the Crossroads Bank for Social security, the National Register etc....;
- **UPS-service** that delivers instantly and without interruptions emergency-energy when unexpected power cuts appear;
- **Remote access service** that allows to make safe connections from a distance when a user tries to get access from an external computer to the LAN of his administration
- **Broadband connections for smaller sites** for clients that wants to connect buildings with little users on the network;
- **Connection of schools**: 96% of the schools in the BCR are now via IRISNET connected to the Internet
- **Development of specific services for the administration of BCR**
- **Services for the broader public** like IRISBOX and the different portal sites of the BCR

Regarding the clients of the network, IRISNET managed to attract an increasing number of clients during the years. In 2009 65 clients were using IRISNET. In 2010 this number increased to 73 clients using all or some parts of the services of IRISNET. In 2011, IRISNET got 77 clients.

These clients of IRISNET can be divided in four groups:

- **Regional authorities and institutions**: the ministerial cabinets of the regional authority, the Brussels parliament, de institutions of the communities and 9 para-regional institutions (MIVB-STIB/ACTIRIS/LEEFMILIEU BRUSSEL – BRUSSEL ENVIRONMENT NET BRUSSEL-BRUXELLES PROPRETE/Port of Brussels/ Services of the Fire Departments, CIBG-CIRB, REGIONAL DEVELOPMENT AGENCY/Ministry of the Brussels Capital Region)
- **Local authorities**: 17 communes and 15 public welfare centres
- **Health**: the public hospitals of the region and some other hospitals within the territory of the BCR
- **Schools**: 96% of the primary and secondary schools are connected to Internet via IRISNET

The unique advantage of IRISNET is that it aliens different actors from different levels of power within the region (regional, community and local) as from different sectors (administration, communities, schools, hospitals,…). In this way, on the one hand fragmentation in different smaller networks, resulting in higher costs and various barriers for co-operation, has been avoided and on the other hand a coherent high-tech image of the region has been created.

**IRISNET2** - This year the first framework contract, after its prolongation for a year, will expire on 26 April. Since IRISNET has become a fundamental pillar for the development of informatics in the Region and the governmental agreement for the period 2009-2014 emphasized the sustainability of the network because the development of Brussels as a flourishing region implies digital innovation, it was decided to continue the established network. This successor or IRISNET is called IRISNET2 and will be launched in the first half of 2012.

With its 13 loops of 72 optical fibres and a total length of more than 200 km it will cover the whole territory of the BCR. Since its broadband is unlimited and because of its redundant typology, IRISNET2 is now a ‘next generation network’ that can support all imaginable present and future services. Moreover, since the infrastructure and the services are now established well, the region can focus on maintenance and following up evolutions in the demands from users. In this sense, the focus is more on ‘developing services’ for public authorities and the broad public than on ‘building infrastructure’.

Compared to IRISNET 1, the number of public authorities that will use IRISNET 2 will be more than the 77 currently using IRISNET. This is a sign that there’s a
growing interest by public authorities for this future proof and state of the art network. In total 122 public authorities in the region will be client of IRISNET 2 (besides the one mentioned above, among others 4 out of 6 police zones will join the group of local authorities and the public housing companies will be the new client group of housing companies). IRISNET2 will in this way support more than 841 sites from public authorities, local authorities, schools, health institutions and public housing companies.

### 3.3.6 Conclusion

The presentation of the current ICT services provided by the authorities in the BCR clearly points out that they, in line with their competences, are all pro-active in seeking to benefit from the promises ICT has to offer them and their citizens.

Although more traditional ways of mere providing information or downloading forms are still common, we can detect that more interactive forms become available that citizens can use to complete various transactions directly via the web.

The development of IRISNET, the role and mission of CIBG-CIRB and emerging channels like mobile applications or QR codes, all seem to point to this increasing awareness of the potentiality of ICT usage in the BCR. In this view, the BCR is an interesting, fruitful region for adopting the relocation service and can underpin the region’s interest to further embrace the potential of new Internet technologies on offer.
4. User analysis and documentation

4.1 Objectives

This chapter documents ways in which the existing services are being used. Emphasis is given to the way users interact with the services, the routes they follow to gain information and the means used for collecting their needs.

According to the EPIC Description of Work Part A T5.2 p.17, an “online survey in the pilot cities exploring the needs of citizens and business” should be carried out in the three pilot cities.

Recent studies regarding the needs and feedback of citizens about available ICT services were already available in the three pilot cities. In order to achieve the aims of this chapter and given the existence of these extensive reports, the WP leader Issy Media decided jointly with the pilot cities partners to exploit them and analyse their results. Moreover, deliverable D2.2 Stakeholder (User) Workshops’ Results already provided valuable insights on the way citizens and businesses perceive the current ICT services and their needs and expectations for new ones.

In addition, attention will be paid to the needs of citizens and businesses during the test phase following the methodology that will be outlined in D8.1 Strategic Evaluation Methodology and which will be delivered by the end of March.

4.2 User typology, feedback and expectations for ICT services

4.2.2 Issy-les-Moulineaux pilot city

Issy-les-Moulineaux has a total population of 64,848 inhabitants, out of which 51.8% are females and 48.2% males. The highest proportion of residents (26.7%) is aged 30 to 44, followed by the 15-29 age range which account for 20.9% of the population. Residents aged 65 and over account for 11.4% of the population.

Table 6 below shows Issy’s residents by age group.
**ISSY RESIDENTS BY AGE BAND**

<table>
<thead>
<tr>
<th>Residents aged 0 – 14</th>
<th>18.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents aged 15 – 29</td>
<td>20.9%</td>
</tr>
<tr>
<td>Residents aged 30 – 44</td>
<td>26.7%</td>
</tr>
<tr>
<td>Residents aged 45 – 59</td>
<td>18.1%</td>
</tr>
<tr>
<td>Residents aged 60 – 74</td>
<td>9.5%</td>
</tr>
<tr>
<td>Residents aged 75 – 89</td>
<td>5.5%</td>
</tr>
<tr>
<td>Residents aged 90 +</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

*Table 6: Classification of Issy’s residents by age group*

Issy’s population is characterized by a large majority of young people. Residents under 30 of age will account for 39.4% of the population.

Almost 90% of households have broadband Internet access and 89% of the Internet users declare surfing the web on a daily basis. The main reasons for using the Internet are the exchange of electronic messages (e-mails); searching for information; managing, editing and printing digital photos; downloading music, movies or software.

The city website www.issy.com is the primary source of local information for the residents, local public servants, local businesses and their employees, as well as outside civil society actors, not easily reachable via the traditional means of communication. The website is widely used by the Municipal Call Centre when inhabitants phone in with enquiries.

Launched in 1996, issy.com has developed and improved ever since. In 2011, 1,380,000 visitors were accounted for and 5,805,000 pages were seen.

95% of inhabitants know the city website and 69% of them access it several times a month. In fact, Internet ranks second in terms of methods of contacting the municipal services (31%), behind the face-to-face method (preferred by 38% of the residents) and ahead the telephone (29%).

Issy.com recorded the highest visits in the first quarter of 2011, when 360,993 visitors accessed the website, viewing a total of 1,433,000 pages. This is likely to be driven by people accessing information about the extremely popular Christmas Corrida which Issy organizes each year. Traffic to the website also increases during key cultural events, elections and local debates on urban planning projects, with peaks for each quarter corresponding to recurring events organized by the city.

Most popular online searches are looking for practical information about the city; administrative information; local events; leisure activities; accessing the local web
TV (Issy.TV, now available also through the city’s Facebook page); contacting a city agent by email; subscribing to the sharing & exchange service 'Issy Comme Vous'; downloading the city publications; contacting an elected representative; looking for information about housing and accommodation; looking for a job.

The most frequently used online transactions are reservations of documents at the Multimedia library; requests for official documents (birth, death, marriage certificates); payment of car parking; inscription on the voters’ lists; subscription to the weekly newsletter and to SMS alerts.

99% of Issy's inhabitants are in favour of the development of e-administration and would like to benefit of more online services such as online registration to associations, cultural amenities and sports clubs, and reminders via SMS of the due date of a loan.

In addition, more than half of them are in favour of measures taken by the municipality to fight the digital divide: 85% of respondents would be ready to give away an old computer for refurbishment and resale at an affordable price to low-income families and 53% of them would personally participate in computer and Internet training courses.

Last but not least, 98% of respondents declared that Internet and ICT more generally, have fundamentally changed their lives over the course of the past decade.

ICT have enabled Issy-les-Moulineaux to provide a faster and easier access to its elected representatives and public administration. Citizen participation is at the heart of Issy’s strategy and several means are offered allowing to get feedback on the existing services or to participate in the decision-making process for implementing new projects and services:

- Questionnaires on specific issues which users are invited to complete online (open to all Issy’s residents);
- ‘The Citizen Panel’, a representative group of 1,200 citizens regularly consulted via the Internet on matters of local interest: Local Safety Contract, Associations, Information Technologies, Local Urban Development Plan, District Life, Culture...

Registration to the Citizen Panel is open to all residents of Issy via the city portal. One can make her/his interest known by providing name, address, telephone number and e-mail address. The information is passed on to the "Opinion Way" institute in charge of the poll and remains anonymous and confidential, to comply with the Freedom of Information Law in France.

4.2.2.1 Conclusion

The information and figures provided above prove well that Issy has successfully implemented its ICT policy and that this success in due mainly to the city’s concern in involving the citizens in every step of the implementation process. The numerous surveys and studies carried out by the city enabled it to improve the existing ICT services and develop new ones based on users’ needs and expectations. In this
sense, the Urban Planning Service will respond to a real need from the citizens, the city administration and the local SMEs, by providing them with the perfect information and networking tool they were all been waiting for.

### 4.2.2 Manchester pilot city

The total population of Manchester is 498,800 with 257,000 males and 241,800 females\(^{10}\). The highest proportion of residents (34.1\%), are aged 25 to 44. Residents aged 60 and over account for 13.6\% of the population, reducing to 5\% in the age range 75 years and over. The following table shows residents by age group.

<table>
<thead>
<tr>
<th>MANCHESTER RESIDENTS BY AGE BAND</th>
<th>PROPORTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents aged 0 – 15</td>
<td>17.5%</td>
</tr>
<tr>
<td>Residents aged 16 – 19</td>
<td>6.0%</td>
</tr>
<tr>
<td>Residents aged 20 – 24</td>
<td>15.1%</td>
</tr>
<tr>
<td>Residents aged 25 – 44</td>
<td>34.1%</td>
</tr>
<tr>
<td>Residents aged 45 – 49</td>
<td>13.6%</td>
</tr>
<tr>
<td>Residents aged 60 – 74</td>
<td>8.6%</td>
</tr>
<tr>
<td>Residents aged 75 +</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

*Table 7: Classification of Manchester’s residents by age group*

Manchester ranks 4\(^{th}\) on the list of most deprived districts in England\(^{11}\). They have an average life expectancy lower than the national average for England and Wales. Figures for life expectancy for men in Manchester are 74.1 years against a national average life expectancy of 78.5 years.

The main employment sector is human health and social work (12\%) closely followed by retail and wholesale (11\%) and professional, scientific & technical (10\%) sectors\(^{12}\). The number of people out of work and claiming Job Seekers Allowance (December 2011) is 5.4\% of the population, which is higher than the North West region and the UK as a whole at 3.9\%\(^{13}\).

Most popular online searches are looking for a job; checking refuse bin collection days; checking school holiday dates; renewing a taxi driver licence; commenting on

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\(^{10}\) Source: Registrar General’s 2010 Mid Year Estimate – 2001 Census

\(^{11}\) Source: List of most deprived districts in England 2010 - CLG

\(^{12}\) Source: 2010 Business Register & Employment Survey, NOMIS ONS

\(^{13}\) Source: NOMIS ONS; Corporate Research & Intelligence
planning applications; looking for parking places; making benefit claims and library services.

Council tax payment is the most frequently used online transaction, others include payment of business rates; housing service charge; childcare fees; parking tickets; adult social care fees; fixed environmental penalty fees, housing rent or insurance.

Refuse bin collection problems are the most frequently reported problem followed by issues with council tax bills. Online reporting of other issues include misuse of disabled parking badges; faulty street lighting; anti-social behaviour; graffiti; fly-tipping and illegal street trading.

The latest recorded number of unique visitors to the Manchester City Council website for January 2011 is 138,934, with visitors accessing and requesting 2,179,907 pages. January is one of the least active months of the year and figures are relatively low compared with monthly averages and only slightly above the lowest monthly total of 126,179 visitors for April last year.

Highest recorded visits during the period April to December 2011 are for November, which received 318,355 visitors viewing at total of 4,895,000 pages. This increase is likely to be driven by people accessing information about the extremely popular Christmas Markets which Manchester host at this time of year. Traffic to the website also increases during council election time and at the start of the financial year for with council tax enquiries.

Figures available for the nine month period April to December 2011 show a total of 1,996,670 people visited the website and requested a total of 36,786,365 pages. These figures translate into an average of 221,852 unique visitors per month accessing 4,087,373 web pages.

The number of actual annual visitors to the website during the last 12 months was 2,959,562. Visitors requested an average of just under 4 pages per visit spending approximately 3 minutes online per visit. This was dependent on information searching only with transactional functions taking slightly longer.

One of the main providers of online services is Manchester Library Information Service which has over 123,500 active members (27% of the population). This service issues over 2.3m items and attracts over 3.3m visitors. Over 750,000 public access computer sessions in libraries are delivered, and nearly 45,000 online reservations and 263,000 renewals took place in 2008/2009. The service is heavily committed to Web 2.0 and social networking. Local studies web pages alone registered 350,000 page views.

Users are invited to provide feedback on all existing and new services in a number of ways:

• The website generates a randomised survey which users are invited to complete online to comment and rate their experience.
• The Council holds a rolling telephone survey, conducted by an independent social research company
• Individual interest groups are invited to make representations to MCC – for example the deaf community raised issues of accessibility to the site for deaf users for whom written language is difficult

Feedback from these sources enables MCC to ensure the provision of services is targeted to specific audience need and provide valuable information for decision-making and policy processes.

4.2.2.1 Conclusion

The outline of user typology and feedback demonstrates that Manchester is aware in its development of ICT services of the importance of taking users’ needs and demands into account. The typology of its users shows that users are actively consulting the divers offered services when needed and actually seek the information and transactions provided by them. Finally the outline made clear that Manchester is aware that following up users’ expectations and feedback is a constant concern for maintaining existing and developing new ICT-services efficient and effective for the specific target group or the general population. Deploying the Smart Energy Service of EPIC in Manchester therefore will be an extra incentive for the provision of smart city solutions.

4.2.2 Brussels pilot city

The issue of user typology and behaviour in information seeking is not clear-cut due to four reasons:

First, the broad range of services – as indicated in the previous sections - that are offered by the four public authorities and their organisations and agencies operating in the territory of the BCR. This would require a detailed analysis of every service; Moreover, in most cases permission for doing a survey would have had to been asked to the authority.

Second, the ICT-landscape of Brussels is not well organised across the different authorities and the quality of the ICT services in terms of lay-out, user options and functionalities is very diverse.

CIBG-CIRB, in a recent document analysing the online presence of the Brussels Region since 1997, states: ‘Approximately 200 Brussels instances and public institutions are present on the web. There’s a strong will to communicate online. The analysis of these websites nonetheless points out that this presence isn’t coordinated, has a lot of deficiencies and is incoherent. The few innovating sites and services don’t allow us to forget that most of them stick to a traditional design...Most authorities in the Brussels Region are satisfied with offering a website. They are not updated
regularly, have a long life, are not following modern accessibility norms and don’t offer interactive services....'

The document says further: 'There’s also a lack of proactivity on the level of structure of the website – it remains difficult for the user to find information easy; on the level of internet redaction work – best practices are not followed and information is not written from the viewpoint of the user; on the level of design – the outline is aimed at visual effects and not at the readability of the content. This analysis confirms the results of the annual report ‘Website Monitor Lokale Besturen (Web site monitoring of local authorities), conducted by the independent bureau Indigov concerning Flemish and Brussels municipalities. In 2008, the 19 communes scored the lowest score for 5 out of 6 researched aspects, including usability, interactivity and e-government. Only the communes using IRISBOX got better scores. For the 2011 report, communes were asked to participate voluntarily. Only 3 communes in Brussels decided to participate.' Finally, CIBG states that current trends in social media (Facebook, Twitter) are mostly ignored.\(^\text{14}\)

Third, most websites that disclose these services presented in previous sections are very recent. The regional portal site of the BCR has been restyled in February 2011. The thematic portal sites were launched in 2009 and fully functioning since 2010. The new website and mobile application for VISIT BRUSSELS was also launched last year. IRISBOX was only launched in 2009. While, as will be shown below, the regional portal site is well known, these new services like Irisbox and the regional portal sites still need to get known within the larger Brussels users’ community. The numbers of their consultation below would prove that getting qualitative results from user research about their behaviour would be difficult since the ‘hunt’ for respondents would be difficult and the results difficult to generalise for the total population of Brussels.

Fourth, the e-services of the City of Brussels like the QR codes and mobile version of the website, are also only operational since February 2011. The same remark as in the previous paragraph can be made.

Given its role and mission statement as the public authority of the region that wants to be the privileged partner of public authorities in ICT development (see previous section for further information), CIBG-CIRB has decided some years ago to remedy this incoherent and chaotic Brussels internet landscape. The new regional portal site, the thematic portal sites and IRISBOX are their current main projects in this policy. As mentioned above, they are just launched. Nonetheless, CIBG-CIRB states that their remodelling is based upon research within the Brussels users’ community and their research needs and ways. The new sites have been developed in such a way to provide an answer to user behavioural patterns so that they find their way and get information in a user friendly way. The portal site got in the beginning of

this year the AnySurfer 2.0 quality label.\textsuperscript{15} The figures on number of users presented below for these services indicate that they actually seem to be a success in the Brussels Region (1 million inhabitants) and respond to the user needs, demands and expectations when seeking information.

Regional portal site

\textit{Number of users}

Since 2002 the portal site of the Brussels Capital Region has gradually increased. In 2003 the number of one million visits (1.003.500 unique visitors) was reached. In 2010 more than 2064163 unique visitors were counted. Due to the change to the new website – the 2\textsuperscript{nd} generation portal website – in 2011 and the fact that it was no more indexed by Google, the number initially dropped. Nonetheless, more than one million unique visitors were counted.\textsuperscript{16}

Evolution of the number of unique visitors of the portal site of the BCR 2002-2011

\textsuperscript{15} CENTRUM VOOR INFORMATICA VOOR HET BRUSSELS GEWEST, \textit{op.cit.}, pp.38-41
\textsuperscript{16} CENTRUM VOOR INFORMATICA VOOR HET BRUSSELS GEWEST, \textit{op.cit.}, p.28
<table>
<thead>
<tr>
<th>Year</th>
<th>Unique number of visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>832,500</td>
</tr>
<tr>
<td>2003</td>
<td>1,003,500</td>
</tr>
<tr>
<td>2004</td>
<td>679,000</td>
</tr>
<tr>
<td>2005</td>
<td>1,299,355</td>
</tr>
<tr>
<td>2006</td>
<td>1,760,000</td>
</tr>
<tr>
<td>2007</td>
<td>1,762,000</td>
</tr>
<tr>
<td>2008</td>
<td>1,763,641</td>
</tr>
<tr>
<td>2009</td>
<td>1,825,978</td>
</tr>
<tr>
<td>2010</td>
<td>2,046,163</td>
</tr>
<tr>
<td>2011</td>
<td>1,046,706</td>
</tr>
</tbody>
</table>

*Table 8: BCR portal site visits between 2002-2011*

In 2010, the total number of consulted pages was 36,927,595 and the most visited sections were: Communes (1,269,197 consulted pages); Mobility/transport (939,985 views); Search engine (889,009 views); Work/jobs (872,868 views); Housing (578,360 views); Online services (553,790 views); Gratis Brussels (383,497 views).\(^{17}\)

**Regional thematic portal site:**\(^{18}\)

The two thematic portal site of the Brussels Capital Region – [www.mobielbrussel.irisnet.be](http://www.mobielbrussel.irisnet.be) and [www.openbareruimtebrussel.irisnet.be](http://www.openbareruimtebrussel.irisnet.be) had in 2010 an average of 40,000 unique visitors for every month.

\(^{17}\) CENTRUM VOOR INFORMATICA VOOR HET BRUSSELS GEWEST, Cigr en Iristem. Samen in dienst van de informatica van het Gewest, annual report of CIBG-CIRB, 2010, p.11

\(^{18}\) CENTRUM VOOR INFORMATICA VOOR HET BRUSSELS GEWEST, op.cit., pp.11-14
Since its foundation in 2008, IRISBOX has known a spectacular growth, with a number of treated requests almost doubled from year to year: 2,950 treated requests in 2008, 5,770 in 2009 and 10,500 treated requests in 2010.

Local: Website of the city of Brussels:19

User numbers

The website of the city of Brussels got 3.5 million hits in 2011 and had around 2.5 million unique visitors. In both cases, this is an increase with +50% compared to 2010. So more and more visitors are consulting the website more than once a day.

---

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of hits</th>
<th>Number of unique visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2,257,786</td>
<td>1,533,202</td>
</tr>
<tr>
<td>2011</td>
<td>3,540,487</td>
<td>2,350,129</td>
</tr>
</tbody>
</table>

Table 10: City of Brussels website statistics

The average number of visits for each day increased from 6,186 in 2010 to 9,782. In the final trimester (October – December 2011) of 2011 this number was very high: 11,843 visits.

Origins of users

Most visits are coming from Belgium (around 75%) but also a significant part comes from the United States, France, the Netherlands and Germany.

Most consulted pages

Besides the homepage, the most visited pages on the website are those belonging to the administrative section, the search engine, the job announcements on the site and the webcam of the Grand Place.

Mobile website and QR-codes

The mobile websites of the city of Brussels was launched on 18th May 2011. In 7 months, the number of visits was 88,506.

The QR codes, stuck (i.e. stickers) on administrative and cultural buildings and sport halls of the city were visited 2953 times since their launch in February 2011.

4.2.2.1 Conclusion

This overview indicates that, while many Brussels authorities are represented on the web, concerns exist regarding to best design ICT services that they meet user expectations. There is, however, a growing awareness, guided by CIBG-CIRB, project partner in EPIC, to ask for user feedback and improve current services and to develop new services based on users’ needs.

The growing number of users for ICT services that were launched last year in accordance with user needs and expectations (the portal site of the region, the two thematic portal sites and Irisbox), clearly demonstrate that they answer to user demands and their information-seeking behaviour. In this way, the relocation service can be an additional benefit and incentive for ICT service providers in the BCR to develop smart city services that meet users’ behaviour, needs and demands and continuously improve them to adhere to future requirements.
5. SWOT analysis of existing ICT services

5.1 Objectives

This analysis has as objective to show the added value and benefits of the EPIC services and cloud platform for each of the pilot cities involved in this project.

The analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) is carried out in such a way so as to bring to light the benefits for cities of each of the EPIC services created within the project.

5.2 Issy-les-Moulineaux pilot city

The SWOT analysis for Issy-les-Moulineaux focuses on the business eco-system and describes the added value of the “smart” Urban Planning Service for the benefit of the entire population of Issy.

<table>
<thead>
<tr>
<th>City</th>
<th>Strengths</th>
<th>Opportunities</th>
<th>Weaknesses</th>
<th>Threats</th>
</tr>
</thead>
</table>
|      | • Numerous innovative SMEs in the ICT sector  
      | • A favourable climate for business development  
      | • Networks of SMEs  
      | • Experience thanks to several successful participation in European project which lead to a sustainable use in the city  
      | • An innovative urban planning tool in place  
      | • Promotion of the city and its SMEs  
      | • Better management and communication of the city urban planning  
      | • Better understanding of the business ecosystem  
      | • Creation of new collaborations by having an image of the local economic tissue  
      | • Offer a multi-service portal to the citizens  
      | • Attract new citizens & businesses  
      | • The creation of a public area for citizens and SMEs to meet and exchange information  
      | • Real will of the city to develop services in cloud computing  
      | • Desire to keep services “in-house”  
      | • Lack of awareness on the cloud computing benefits for cities  
      | • Economic situation and need for Public entity to make savings  
      | • Reluctance to change especially for employees and city staff  
      | • Existing framework contracts and local procurement requirements  
      | • Regulation is evolving on Cloud Computing  
      | • Need of strict control over service in cloud  
| Businesses | • Creation of an SMEs network favouring contacts and partnerships  
      | • Direct contact with the citizens  
      | • Opportunity to be reactive to the situation  
      | • Promotional tool  
      | • New space of communication  
      | • Answer to the users’ expectations  
      | • Economic situation  
      | • Distrust toward this new tool  
| Citizens | • Open-minded, connected population, ready to test new edge technologies and services  
      | • Ease of use of the existing urban planning tool  
      | • Visual information for daily use  
      | • A closer relationship to businesses and the local administration  
      | • Favor a true appropriation of the city by the citizens  
      | • Service customization according to each user’s needs and interests  
      | • The service can be seen as too intrusive  
      | • Too many initiatives led by the city which might bore the citizens  
      | • Difficulty to maintain citizen engagement  
      | • Technology fatigue  
      | • Accessibility issues  
      | • Information overload  

Table 11: SWOT analysis on Issy services
The added value of the Urban Planning Service lies in the provision of an online tool that will connect Issy-les-Moulineaux’ citizens and businesses but also in the establishment of a new local business network which will stimulate business development, partnerships and foster innovation.

By so doing, the new Urban Planning Service will help enhance local activity in the long run from several points of view: firstly, citizens will have a faster access to the local economic infrastructure (especially those seeking for job offers); secondly, the local businesses will have an insight on the local economic tissue, the competitors and the potential partners; finally, the local administration will be able to offer an interactive multi-service portal to their citizens, being able in the same time to have a detailed view of the local economical fabric, follow its activity and stay up-to-date with the latest news in the sector.

This service will serve as a decision support tool for Urban Planning and implementation of local policies, fostering cooperation between different stakeholders within the city, and by so doing, encouraging the development of the economic fabric, and ultimately bringing citizens closer to their government.

5.3 Manchester pilot city

The analysis shown in Table 12, illustrates the strengths, opportunities, weaknesses and threats when adopting new cloud based web services in the city of Manchester. The table focuses on three main areas; the city perspective; business and citizens.

<table>
<thead>
<tr>
<th>City</th>
<th>Strengths</th>
<th>Opportunities</th>
<th>Weaknesses</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Smart cities portfolio links&lt;br&gt;• Contribution to development of cloud services in city&lt;br&gt;• Opportunity to engage with strategic development of services&lt;br&gt;• Benefit of expertise of large corporations and SME organizations&lt;br&gt;• Project networks&lt;br&gt;• Inform city of environmental conditions&lt;br&gt;• Understandable &amp; informative data for policy &amp; decision making</td>
<td>• 2020 climate change and CO2 targets for city&lt;br&gt;• Internet of things proof of concept leading to open innovation&lt;br&gt;• Tailored solutions for city&lt;br&gt;• Initial entry point for smart city solutions&lt;br&gt;• Opportunity to examine &amp; test smarter ways of working&lt;br&gt;• Information aggregated at local level&lt;br&gt;• Intervention to target initiatives &amp; encourage stakeholders (business &amp; citizens etc) to take responsibility for carbon reduction targets</td>
<td>• Willingness of city to develop more online services&lt;br&gt;• Lack of awareness of benefits of cloud&lt;br&gt;• Desire to keep services “in-house”&lt;br&gt;• Number of services small&lt;br&gt;• Lack of government initiatives/action&lt;br&gt;• Numbers involved in pilot too small – require large scale ‘roll out’</td>
<td>• Economic downturn and need to make corporate savings&lt;br&gt;• Reluctance to change current methods of delivery&lt;br&gt;• Perceived security of locally generated facilities&lt;br&gt;• Existing framework contracts and local procurement requirements&lt;br&gt;• Employment and existing staff responsible for non-cloud services&lt;br&gt;• Access to appropriate specialists</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Businesses</th>
<th>Strengths</th>
<th>Opportunities</th>
<th>Weaknesses</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Flexibility in scale of solution&lt;br&gt;• Brings together public sector &amp; business</td>
<td>• Potential to extend business solution&lt;br&gt;• Improve &amp; extend services through user feedback&lt;br&gt;• GIS mapping</td>
<td>• IPR&lt;br&gt;• Economic stability&lt;br&gt;• Vulnerability of size&lt;br&gt;• Manage user expectations</td>
<td>• Economic downturn&lt;br&gt;• Change of business direction&lt;br&gt;• Financial stability&lt;br&gt;• System reliability</td>
</tr>
</tbody>
</table>
Citizens
- Engaging product
- Ease of use, functionality & installation
- Understandable & informative data for decision making
- Reliable system & equipment
- Enable & encourage citizens to reduce carbon footprint

- Part of community working together to achieve climate goals
- Inform citizens ‘city wide’ environmental conditions
- Encourage wider take up of service

- Complexity of energy tariffs, difficulty in monitoring
- Technology fatigue

- Difficulty keeping citizens engaged
- Technological advancement
- Citizen expectations
- System reliability

| Table 12: SWOT analysis on Manchester services |

Whilst the Smart Environment Service is one example of a cloud based web service, the testing of this service and others will offer the opportunity for an initial entry point for the future provision of smart city solutions. It will allow further examination and testing of smarter ways of working and provide a proof of concept for the internet of things, leading to open innovation.

5.4 Brussels pilot city
The SWOT analysis presented below for our EPIC-relocation service for expats was conducted following two baselines. On the one hand, we looked for strengths, weaknesses, threats and opportunities of our service in relation to the broader economic, technological, policy and administrative context within the BCR. On the other hand, we identified strengths, weaknesses, opportunities and threats in relation to other online real estate websites and the way they offer particular housing search services for those who wish to move to the BCR. Within the Brussels Capital Region, the following online housing search sites or engines were identified:

- Online search housing site emanating from the Flemish Community Commission:
  - Wonen in Brussel: woneninbrussel.be
- private online search housing sites:
  - Immoweb: [www.immoweb.be](http://www.immoweb.be)
  - Vlan: immovlan.be
  - Immo Particulier: [www.pap.be](http://www.pap.be)
  - Vitrine: [www.vitrine.be](http://www.vitrine.be)
  - Zoek-Immo: [www.zoek-immo.be](http://www.zoek-immo.be)
  - Livios: [www.livios.be](http://www.livios.be)
  - Immovast: [www.immovast.be](http://www.immovast.be)

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20 We selected here websites whose core business is the online advertising and searching of property and which have properties situated within the BCR in their database. Some websites that are developed for being an online second hand market also have sections in which individuals or retail agencies can place their ads and potential buyers/renters search property in Brussels (e.g. Locanto.be or 2dehands.be). Since compared to our relocation service, real estate is not the core business of these sites, we did not take them into account for this analysis.
- Although being a private company providing general information for expats about different European countries, Expatica offers also on his website a housing search engine for expats:
  o Expatica: [http://housing.expatica.com/belgium](http://housing.expatica.com/belgium)
- Private online search housing sites aiming at people looking for short stay renting of houses or apartments
  o Brussels Destination: [www.brusselsdestination.be](http://www.brusselsdestination.be)
- Private online search housing site aiming at people wanting to co-locate a house or flat:
  o Appartager: [www.appartager.be](http://www.appartager.be)
  o Colocataires: [www.colocation.fr](http://www.colocation.fr)
  o Allesthuis: [www.allesthuis.be](http://www.allesthuis.be)
  o Colocation: [www.maco-location.com](http://www.maco-location.com)
  o Collocation: [www.recherche-colocation.com](http://www.recherche-colocation.com)
  o Coloctoit: [www.coloctoit.com](http://www.coloctoit.com)
  o Chambreàlouer: [www.chambrealouer.com](http://www.chambrealouer.com)
<table>
<thead>
<tr>
<th></th>
<th>Strengths</th>
<th>Opportunities</th>
<th>Weaknesses</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>• Smart city portfolio links</td>
<td>• Framework of EU-policies regarding e-government.</td>
<td>• Which city partner? Division of competences can harm collaboration between necessary city authorities</td>
<td>• Is there necessary support available in the public administrations to keep certain information up-to-date regarding daily life in the city and especially those pages that are interesting for expats settling in?</td>
</tr>
<tr>
<td></td>
<td>• Contribution to development of cloud services in the city</td>
<td>• Stimulating international mobility within EU is core component of EU policy</td>
<td>• Is awareness of potential of cloud technology and Internet of Things applications great enough to support investment?</td>
<td>• Current economic downturn and possible budget cuts</td>
</tr>
<tr>
<td></td>
<td>• Opportunity to engage with strategic development of service</td>
<td>• Brussels public authorities want to further exploit Brussels as an international city</td>
<td></td>
<td>• Present incoherence in website presence public authorities in BCR</td>
</tr>
<tr>
<td></td>
<td>• Provides valuable quantitative data for city authorities about expats and their relocation preferences</td>
<td>• The international presence in Brussels makes it necessary for public authorities to have sound data about all aspects of live of expats</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Generated data support the development of sound and well informed policy making by the city regarding the settlement of expats, the communication towards new expats and the simplification of administrative procedures.</td>
<td>• Growing awareness within public authorities about benefits of cloud computing and Internet of Things usage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Businesses</td>
<td>• Bringing together public sector and private business</td>
<td>• Potential to extend business solutions</td>
<td>• Can the user expectations be managed?</td>
<td>• Economic downturn and lack of investment possibilities</td>
</tr>
<tr>
<td></td>
<td>• Provides valuable data for local retail and housing industry about developing their business towards expats and their preferences and needs</td>
<td>• Retail sites start to discover potential of mobile technology to extend and complete their business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Opportunity to engage with cloud computing service</td>
<td>• Improve and extend business services by means of user feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Expat market in Brussels available but not really served from relocating point of view</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Potential to include other stakeholders who are dealing with expats to get their services better targeted to this group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citizens</td>
<td>• First real estate website in Belgium and Brussels specifically developed for and targeted to expats</td>
<td>• Growing numbers of Europeans are working and living in another city in another member state.</td>
<td>• Data subscription with local provider necessary for mobile application/roaming price</td>
<td>• Sense of technology fatigue and information overload.</td>
</tr>
<tr>
<td></td>
<td>• Combines the strength of the database of Belgium’s leading online retail website Immoweb and the information of CIBG.</td>
<td>• People about to relocate to another city in another country are better informed and more empowered to find a property and area to live that meets their needs and demands.</td>
<td>• Citizens expectations can change so the service must be followed up intensively in order to be relevant from citizen’s point of view</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current real estate websites don’t give information about the environment of a real estate. Only ’Woneninbrussel’ does this, but this site is targeted towards the Flemish population of Belgium and is only in Dutch. Our solution is in English.</td>
<td>• Large community of expats might be good potential for encouraging the uptake of the service. In Brussels e.g. exists no specialized online and mobile property service for expats.</td>
<td>• Number of smartphones increasing in Belgium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Smoothen the process of relocating to an unknown city by enabling the selection of property that suits not only the housing demands but also daily life needs of the expat.</td>
<td>• Number of smartphones increasing in Belgium</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User friendly and simple to use web and mobile application</td>
<td>• Sense of technology fatigue and information overload.</td>
<td></td>
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</tr>
</tbody>
</table>

Table 13: SWOT analysis on Brussels services
The overview of the current ICT services and the user analysis indicated the following: We first learned that local authorities are clearly aware of the potentialities the Internet offers and are following a policy of active presence. We highlighted that a lot of services can be used by expats, although they are not directly targeted at them. We also highlighted that public authorities by means of CIBG-CIRB and Irisnet 2 are having access to the most recent Internet technologies and are capable of accepting future Internet technologies. On the other hand we learned that the Internet presence of local authorities is not always so pro-active. Nonetheless, CIBG-CIRB, partner in EPIC, is currently working on creating a more fundamental awareness within local authorities of the need for a coherent and user friendly ICT development. In this sense, there exists a clear potential that the Brussels Region can accept our relocation service.

In the present and future Internet landscape of Brussels, the relocation service can have a real added value. It can stimulate further involvement in developing different user friendly Internet of the future applications by the different regional authorities. Moreover, the added value lies not only in technology as an infrastructure. Developing the service is also beneficial for regional policy, and communities and municipalities. Being an international city and that actively seeks to emphasis this role, authorities in Brussels can benefit from our relocation service as it can generate interesting data informing and fine-tuning such a policy on the basis of expats housing and daily life preferences. Moreover, our service will provide authorities valuable information for developing policy actions that help to make their settlement in Brussels smoother. In this sense, our service can provide information that might stimulate the creation of other ICT services targeting specifically expats.

Second, our service is also the first specific online housing search engine that is targeted at expats and, by incorporating point of interests around properties, is not only limited to house searching as such. This combination makes it quite unique in the present online retail business environment.

The only two initiatives that might resemble some of our features are Expatica and WoneninBrussel. The former, however dedicated for expats, restricts itself to house information, while the latter, combining housing criteria with points of interest, is only available in Dutch and targeted towards Flemish speaking people having plans to move to Brussels. For expats having the nationality of one of the 27 EU member states and on the point of relocating to Brussels, our service can therefore be a great help. For businesses located in Brussels, our service can also add value. The relocating industry in Brussels can gain necessary information about the demands and needs of this substantial part of the Brussels population and adopt its business processes accordingly. Other businesses that have an interest in expats, like relocation agents or financial institutions, might also benefit from certain data about living and housing preferences that our service will generate.

On the other hand, our service can be an interesting tool to implement for the online house search engines that are aiming at expats who are first looking for short-stay residents.
6. Conclusion

Increasing generalization of technology access by citizen and organizations brings higher expectations and demands on governments. At the same time, this very increase in Internet usage and the rapid development of the IT infrastructure has tremendously enhanced the ability of local governments to provide e-services for their citizens.

We have seen from the three EPIC pilot cities presentation that local governments are indeed proactive in this domain and that they are planning new ways to improving services, optimizing processes and revitalizing democracy by investing enormously on IT. At the same time, insights yielded in user typologies allowed us to see that local governments do take into consideration the social characteristics of their citizens in the design of ICT services, and more importantly, that they are aware of the relevance of their feedback for improving current services and to developing new ones, adapted to users’ needs.

From the SWOT analysis of the three pilot cities ecosystems we gathered that while these cities are already ahead in their technology services, the “cloud” can provide new opportunities and entry points for the provision of smart city solutions, and that the EPIC solution can assist in making these cities to become “smarter”.

Moreover, by using the Living Lab concept, ecosystem and its user-centred methodologies, EPIC can stimulate the creation of citizen-based services by involving end-users and SMEs more closely and in their real life context in the innovation process. In this way, the EPIC services can bring considerable advantages that might address some of the potential threats identified in the cities’ SWOT analyses.

As a result, the three pilot cities are likely to live up to the EPIC vision of what a “Smart City” truly means: A city that is able to benefit from the innovative developments of citizens, SMES and other actors within and across city and nation boundaries; leverage a service infrastructure that is capable of delivering ‘one stop government’ through the integration of services, interoperability of systems and use of actionable intelligence in service delivery; and finally, contribute to a multi-national service-oriented ecosystem by providing and sharing open business processes as services with other cities. By 2013 the EPIC ‘Smart City’ vision will have begun to become a reality for Issy-les-Moulineaux, Manchester and Brussels through the creation, use and improvement of a roadmap (which will help cities in implementation activities underpinning cities to become smarter) and of the EPIC platform underpinning the multiple and combined benefits of the EPIC solution.

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21 EPIC D2.1B Project Vision
7. References

(2) Coote R et all, EPIC Deliverable D5.1 Specification of Scenarios of Use & Ecosystems, 2011
(3) EPIC Description of Work, Part A
(4) IIIT, Hyderabad, Cloud Computing for E-Governance, A white paper, 2010
(6) Manchester city portal, www.manchester.gov.uk
(8) Manchester general statistics,
## 8. Glossary of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>WP5</td>
<td>Work Package 5</td>
</tr>
<tr>
<td>BCR</td>
<td>Brussels Capital Region</td>
</tr>
<tr>
<td>VGC</td>
<td>The Flemish Community Commission</td>
</tr>
<tr>
<td>COCOF</td>
<td>The French Community Commission</td>
</tr>
<tr>
<td>SME</td>
<td>Small and medium enterprises</td>
</tr>
<tr>
<td>CIBG</td>
<td>Centre d'Informatique pour la Région Bruxelloise</td>
</tr>
<tr>
<td>MCC</td>
<td>Manchester City Council</td>
</tr>
</tbody>
</table>
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