Annex A

M-Government projects compendium

G2C – Government to Citizens

1. Information and Education Services (Push services)

*General information for citizens (***e.g.** *weather, tourism, recreation, contact information)*

► Wireless Portal of the Government of Canada

Country: Canada

www.m4life.org/proceedings/2005/PDF/42_R355CN.pdf;
www.parl.gc.ca/common/index.asp?Language=E;

A service designed for the public, available by cell phone, to access the Member of Parliament directory service; clients simply punch in their postal code on the wireless device to obtain the up-to-date contact information for their MP, etc. As years pass and MPs change or change location, this service keeps citizens in touch with their representatives. Moreover, this wireless portal of the Government of Canada provides airport info, passport services, etc. These are made available through cell phone menus.

► Mobile Information Gateway

Country: Bahrain

www.ega.gov.bh/downloads/resources/Strategy-English.pdf

The Mobile Gateway will provide selected information services for visitors to Bahrain, like National Contact Centre numbers, selected hotels and restaurants available in Bahrain, places to visit in Bahrain, regulations for visitors in Bahrain, etc. (P.168)

► E-Government Gateway

Country: Turkey

www.aradiom.com/QuickGovernment/mobile-governmentmgovernment-city-municipality.htm; www.prlog.org/10368698-turkeyreleases-aradioms-m-government-application.html;

www.aradiom.com/index.html; https://www.turkiye.gov.tr/bilgilendirme?konu=mobil

m-government (mDevlet), a new mobile application developed by Aradiom (Aradiom Mobile Framework™. QuickCity- Mobile Government) for Turksat (Turkey's e-Government Gateway operator) enables citizens to access government services from their phones (such as traffic flow with live camera support; city maps with zoom features; ferry, bus, metro schedules; guide to city services; etc.).

► Mobile Portal of the Government of the Republic of Korea

Country: The Republic of Korea

http://m.korea.go.kr/mbl/searchmgr/main.do#

A service designed for the public to access information provided by Korean Government. This mobile portal of the Government of the Republic of Korea provides information on not only policies, laws/regulations, statistics and URL of the public organisation but also lost and found, missing people. Also the dictionary for officialise, tour information for around 130 countries and the applications developed by the public sector are provided. This service is made available to iPhone, Android phone and Window Mobile phone.

► Information service on government offices

Country: Spain

Most of the major ministries, regional governments and local councils have a mobile version of their web sites. These sites offer basic information about their powers, services offered, organisation, press releases. Examples of these mobile versions of e-government websites are:

Ministry of Economy and Finance: www.meh.es/Movil/

Ministry of Industry, Tourism and Trade: www.mityc.es/movil/

Govern de les Illes Balears – Government of the Balearic Islands: www.illesbalears.cat/mobil/index.do
Local Council of Madrid: www.madrid.mobi/mobi

City of Castellón: www.castello.es/wap

Local council of Zaragoza: www.ayto-zaragoza.mobi

An advanced version of these kinds of sites for mobile devices is the application for iPad/iPhone developed by the Regional Government of Madrid. This application allows you to locate on a map geolocation service and government offices of the three levels of government in the region, positioning them so on the location of the city. In each of the offices offered their activities, schedule, responsible bodies and other useful information. Within the map also the public transport network is overlapping in order to facilitate access to service points for citizens.

The regional government of Castilla-La Mancha has also developed an application for Apple devices, in this case only for iPhone. It is worth mentioning the case because, unlike the case mentioned above, there is a version of the same for Android devices. The need for developing different applications depending on the mobile device is one of the great problems of the splintering of the Internet and breaking the unique web interface model.

In the area of vertical services, the city of Zaragoza has a pollen alert service in the city. The citizen subscribe by sending an SMS to those plants whose pollen activity he wants to be informed and receives the alerts of significant activity levels. Full details of the service: *www.zaragoza.es/ciudad/aprovecha/movil/diaria.htm*

Information on transport routes is another area of mobile application development in electronic public services. There are applications for Apple or Android devices of transport networks in large cities, but we highlight the value of a medium-sized city such as Murcia, which has made available an application for Apple mobile devices with information on its bus network.

► MiaPA: your voice to enhance PA

Country: Italy

www.innovazionepa.gov.it/comunicazione/notizie/2010/ottobre/25102010---innovazione-brunetta-presenta-miapa.aspx

www.innovazionepa.gov.it/media/596293/presentazione_miapa.pdf

www.lineaamica.gov.it/

Launched in October 2010, MiaPA is an innovative service accessible by smartphone (trough a free app) or PC which enable citizens to: *(1)* find public offices addresses, deploying geo-localisation; *(2)* give assessment of the services; *(3)* share comments with other citizens leveraging on a social check-in paradigm. This initiative combines mobile with open government, since the database of public offices addresses are covered by the first Italian Licence for Open Data – Creative Commons allowing for re-use of Public Sector Information.

*Specific information (***e.g.** *scholarship decisions, exam results, tax notifications, renewal notifications)*

► MyeCitizen SMS Alerts

Country: Singapore

www.ecitizen.gov.sg/mobile/index.html;

www.gov.sg/;

http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTEDEVELOPMENT/0,,contentMDK:21180737~menuPK:3320268~pagePK:210058~piPK:210062~theSitePK:559460,00.html

Subscribers can receive timely and personalised SMS alerts and notifications for the following services: CPF account alerts and notifications; Passport Renewal; Road Tax Renewal; TV (Household) and Vehicle Radio License; URA Parking Offences and Season Parking; etc.

► Use of SMS to deliver tax information to citizens

Country: China

http://mobility.grchina.com/index.htm;

http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan034655.pdf.

Taxation Department in Beijing uses SMS to deliver information about tax collection.

► SMS notification for tenders and job information

Country: Oman

http://iisit.org/Vol6/IISITv6p817-824Naqvi678.pdf;

www.omanet.om/english/history/sultan.asp?cat=hist;

www.ameinfo.com/57665.html

Oman's Tender Board and Ministry of Manpower send notification messages to clients about their transactions and/or other issues such as new tenders and job vacancies, etc.

► SMS with exam results, scholarship decisions, etc.

Country: Hungary

www.e-government.hu/digitalcity/domainstart/urb_domain.jsp?dom=AAAAGCAI;

www.e-magyarorszag.hu/;

In Hungary, students receive exam results and scholarship decisions, and parents receive notices on students' absences from school, via SMS.

► "M-Government Initiative" in Malta

Country: Malta

www.gov.mt/newsletterarticle.asp?a=38&l=2;

http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTEDEVELOPMENT/0,,contentMDK:21180737~menuPK:3320268~pagePK:210058~piPK:210062~theSitePK:559460,00.html

The government of Malta in 2003 launched an "m-government" initiative: providing examination results by SMS. Other applications include notifications of court deferrals to clients and their lawyers, and sending renewal notifications for trade licenses.

► Cafe of Invention

Country: The Republic of Korea

www.kipo.go.kr/kpo/user.tdf?a=mobile.menu.MenuApp

KIPO (Korean Intellectual Property Office) launched "Invention Café" in December 2010 that provides patent information. A list of patents, terms for Intellectual property, news, information of policy and patent fee, etc… are available via smartphone. Specifically, the list of patents has recorded about 12,000 hits since it started the service in October 2010. These are made available through the iPhone.

Emergency alerts

► SMS Security warnings in case of security threat

Country: UK

http://travel.state.gov/travel/cis_pa_tw/cis/cis_1052.html;

http://unpan1.un.org/intradoc/groups/public/documents/CAIMED/UNPAN028992.pdf

Security warnings sent to all mobile phones in a certain area of the city (London) in case of security threat.

► DMH PROTÉGÉ- SMS broadcasting system to send alert messages to citizens

Country: Mexico

www.cft.gob.mx/en/Cofetel_2008/idioma;
http://smsegov.info/images/smsegov.pdf

In Mexico City, the SMS broadcasting system sends alert messages to citizens in the district regarding meteorological and high rain risks, low temperatures, potential disasters, and emergency locations as well as contact numbers.

► SMS notifications during the SARS outbreak

Country: Hong Kong, China

www.textually.org/textually/archives/2004/01/002758.htm;
www.immd.gov.hk/ehtml/20040120.htm

In Hong Kong, China, SMS were sent to some 6 million mobile phone users during the SARS outbreak to keep them calm and reduce fear.

Education (learning using a mobile)

► Text2Teach

Country: The Philippines

www.apecdoc.org/trackbacks/12/6093;
www.gsmworld.com/documents/mLearning_Report_Final_Dec2010.pdf

The Ayala Foundation convened the Text2Teach (T2T) Alliance – consisting of Ayala Foundation, the Department of Education, Globe Telecom, Nokia, SEAMEO INNOTECH, PMSI-Dream Satellite, and Chikka Asia – to roll out T2T in the Philippines in 2003. T2T allows teachers to download short videos to a mobile device and screen their classroom. The project was originally satellite-enabled education equipment consisting of a machine called a Media Master, a television set, and a mobile phone. However, the T2T technology has since upgraded from this satellite-based delivery to a full cellular platform, using a 3G-enabled device such as the Nokia N95 8GB and N86 8MP, equipped with an application called Nokia Education Delivery (NED). NED makes it easier for teachers to select and download video clips to be used in their day-to-day lessons.

2. Interactive Services

Security services (report a crime; law enforcement)

► Police notices sent to stolen mobile phones

Country: The Netherlands

http://articles.cnn.com/2001-03-28/tech/SMS.bomb.idg_1_handset-subscriber-identity-module-mobile-phones?_s=PM:TECH;
www.politie.nl/English/

In the Netherlands, repeated police notices are sent to stolen mobile phones. After a user reports his GMS handset stolen, the police start sending out one Short Message Service text message to the phone every three minutes: "This handset was nicked, buying or selling is a crime. The police."

Filing claims, reporting a problem

► The Lead PNP SMS Project

Country: The Philippines

www.philstar.com/Article.aspx?articleid=517510

The Philippine National Police will launch a short messaging service (SMS) system that will enable police officials nationwide to receive daily management tips, operational instructions and even birthday greetings from the office of PNP chief Director General. The system will make use of the present OCPNP (Office of the Chief PNP) SMS Center to receive feedback and complaints from the public. As such, the new system will entail no additional cost to the PNP. It has been shown that an informed leader is an empowered leader. As such, efforts should be made to provide key leaders with essential information, guidance and direction that will help them connect their operational activities with the strategic goals of the PNP.

► "iBurgh" application: Open Government Data

Country: USA

www.post-gazette.com/pg/09230/991552-53.stm;
http://appshopper.com/utilities/iburgh;
www.headstar.com/egblive/?p=250

Citizens can use the "iBurgh" application to photograph problems around the city, add a description and send the information to the council's complaints department. As the photos are automatically "geo-tagged", council officials can quickly locate the problem site.

► Lokvani – "The Voice of the people" – an innovative model of Citizen Service Centers (CSCs)

Country: India

indiagovernance.gov.in/download.php?filename=files/Lokvani.pdf;

http://unpan1.un.org/intradoc/groups/public/documents/UN/unpan037362.pdf

Citizens can register and then track the status of their petition via a nearby Kiosk center. The complaint is then transferred to designated officials, who can read but cannot modify it. It has many unique features including one which enables citizens to follow the movement of their complaint with the help of a mobile phone (IVRS and SMS).

► Using mobile devices to file complaints

Country: Malta

www.egov4dev.org/transparency/case/eccsmalta.shtml;
www.eccnetmalta.gov.mt/home;
www.epractice.eu/en/document/288319;
www.gov.mt/

In Malta, citizens and business can use their mobile devices to file complaints about government agencies' actions, or inactions.

► Mobile reporting of illegal waste deposits

Country: The Philippines

www.ncc.gov.ph/files/sms_report0610.pdf

In the Philippines, services being offered can be as simple as accessing information; sending complaints, comments, or recommendations; or as specialised as reporting crimes or paying taxes. One such service is illegal waste deposits reporting via mobile.

► The DMH ESCUCHA- the SMS channel for the district mayor

Country: Mexico

www.cft.gob.mx/en/Cofetel_2008/idioma;
http://smsegov.info/images/smsegov.pdf

Citizens of Mexico City can bring their concerns directly to the president or mayor by sending messages such as complaints about government services, projects, or officials; opinions about new policy; enquiries about new programmes; or reporting about corruption.

Employment services

► Job seeker SMS service- CELEPAR

Country: Brazil

www.celepar.pr.gov.br/;
www.brasil.gov.br/para/worker/work-job-and-income/jobseeker2019s-allowance/br_model1?set_language=en;
http://lists.w3.org/Archives/Public/public-mw4d/2008Oct/att-0026/PDF-Presentation-M-GovBrazil.pdf

Job seekers in Brazil have to register his/her skill at the State Agency. When a new position is available and the job description matches, a SMS message is sent. He/she has 24 hours to show up for an interview.

► Jobs openings via SMS

Country: Sweden

www.statskontoret.se/in-english

There are other areas of the employment services that are better tailored to the mobile phones. One service is that it is possible to subscribe to information on job postings that match the profile of "the type of job I'm interested in". Hits will be emailed or SMSed. Another service is that mobile phone numbers for SMS can be published in the job seeker's CV so that job provider can get in touch via SMS. Also, SMS are sent to a pool of registered workers who are willing to work as temporary.

► Job Hunt System

Country: The Philippines

http://unpan1.un.org/intradoc/groups/public/documents/Other/UNPAN024834.pdf;

www.phil-job.net/index.php?action=faq;

http://smsegov.info/images/smsegov.pdf;

www.dole.gov.ph/

The Department of Labor in the Philippines provides a service to job seekers which sends information via SMS on both domestic and international employment opportunities.

Information inquiry services

► The SMS-based vehicle detail system

Country: Indonesia

http://bnp-indonesia.com/VMS_Details.htm;
http://smsegov.info/images/smsegov.pdf

In East Java, Indonesia, the SMS-based vehicle detail system enables citizens inquire about a vehicle (tax, model, and owner) by sending the vehicle registration number. The system obtains an accurate position from the satellite-based Global Positioning System (GPS) operated by the United States Department of Defense, which provides world-wide 24-hour coverage from a system of high orbit satellites. The communications link for transmitting position information from the vehicle can be via radio (HF, UHF, VHF, Trunked radio), cellular telephone, or satellite link, whichever suits the application or environment.

► Tourist information through mobile phones

Country: Estonia

www.mgovworld.org/PractitionerViewPoint/hannes-astok-member-of-parliament-former-deputy-mayor-city-of-tartu-estonia

In the Estonian city of Tartu, visitors can get tourist information through their mobile phones.

► Municipal Transport Company of the Cities of Madrid, Zaragoza and Malaga

Country: Spain

www.emtmadrid.es/

The Municipal Transport Company of the City of Madrid offers real-time information on its bus network. Sending an SMS stating the code of the stop and the bus line number, is answered with the approximate waiting time until the arrival of the next bus. A similar service has been deployed by the Municipal Transport Company of the City of Málaga.

The City of Zaragoza has deployed a similar service for municipal bus network described in cases of Madrid and Malaga. Additionally, to improve mobility in private transport, it has developed an appealing application for Apple and Android devices to visualise traffic conditions

in the locality, which allows drivers to choose the best route to travel between two points in the locality.

The Network of Public Airports (AENA) facilitates real time information on takeoffs and landings at airports in Spain to mobile devices of any kind. This information is accessible on WAP technology.

3. Transactional services

► Electronic Benefits Transfer (EBT)

Country: USA

www.homelandcouncil.org/pdfs/digital_library_pdfs/delivery_of_benefits_in_an_emergency_ibm.pdf

During the Katrina Hurricane in New Orleans, some remarkably successful relief efforts were identified. Using its existing electronic benefits transfer (EBT) infrastructure, the Food and Nutrition Service in the U.S. Department of Agriculture worked with state governments and private EBT vendors to deliver USD 907 million in emergency food stamp benefits to 2.3 million households. The American Red Cross provided emergency financial assistance to over 4 million survivors, amounting to some USD 1.5 billion cash, checks, and electronic benefits, by April 2006.

The EBT Council began in September 1995 as an organisation composed of federal agencies, states, merchants, payments networks, financial institutions, and other EBT service providers, including consultants and processors. The federal government, through the Office of Management and Budget, encouraged these stakeholders to meet in a deliberative group to develop operating rules for the electronic delivery of government benefits, including food stamp and cash benefits. Currently all states and the District of Columbia offer statewide EBT programs, and 40 of these use the rules developed by the EBT Council, which is now known as the Electronic Benefits and Services (EBS) Council. Electronic Benefits Transfer was a critical means of delivering assistance to hundreds of thousands of people in the aftermath of Katrina.

► Dowa Emergency Cash Transfer Project (DECT)

Country: Malawi

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.114.9379&rep=rep1&type=pdf

www.wahenga.net/node/797

The Dowa Emergency Cash Transfer (DECT) project was designed and implemented by Concern Worldwide Malawi, as a humanitarian response to a localised food and livelihoods crisis in Dowa District in Central Malawi. DECT aimed to provide cash transfers to 11 000 needy households for five months (December 2006 to April 2007) to enable them to cover their "missing food entitlement" (MFE) through food purchases. DECT also aimed: (1) to develop and test innovative modalities for delivering cash transfers, including mobile banking and the use of technology (smart-cards and biometric recognition) for beneficiary registration and verification; (2) to explore market responses to cash transfers in rural areas.

DECT incorporated several innovative design features that had first been devised by Concern Worldwide for its Food and Cash Transfer (FACT) project in 2005/06. These included linking the cash transfer level each month to the local price of food, to protect poor purchasers of staple foods against extreme price rises; and adjusting transfer payments by household size, as this *per capita* approach ensured a more equitable access to food than a uniform payment per household.

Taxes and other payments

► SMS based services for Challan status enquiry

Country: India

http://tin.nsdl.com/;

www.mgovworld.org/News/income-tax-department-of-india-launches-sms-based-services-for-challan-status-enquiry

Tax Information Network (TIN), hosted by National Securities Depository Limited (NSDL) on behalf of Income Tax Department (ITD), offers a facility to verify whether banks have correctly uploaded the details of tax deposits to ITD through SMS. The tax payer will get the information against which TAN/PAN the payment has been accounted with the confirmation whether amount entered is matched or not. There will be special charges for these SMS. These charges may vary from one mobile

service-provider to another. The charge structure can be obtained from the concerned service-provider.

► SMS Claiming Tax Credits

Country: Ireland

www.ireach.ie/failid/ireach_booklet_2007.pdf

An SMS enquiry in Ireland allows citizens to claim tax credits and request a number of tax forms and information leaflets via SMS. Citizens send a message to a dedicated number (51829) including their personal identification and a relevant service code.

► Comprehensive Tax Services

Country: The Republic of Korea

m.nts.go.kr

Through the Home Tax Service, tax payers in the Republic of Korea can check their mobile phones to see what has been filed electronically by their agents on a real-time basis. Home Tax Service users subscribing to electronic billing service can retrieve billing information such as tax items and the amount from the day of billing to the due date of payment. The amount of tax return, left uncollected by tax payers for the last five years, can be retrieved and by entering the business registration number on mobile phones, citizens can retrieve the business type and operation status.

► National Tax Agency sends SMS

Country: Spain

https://www.agenciatributaria.gob.es/AEAT.sede/tramitacion/ZN01.shtml

The National Tax Agency sends SMS alerts to various citizens regarding their tax obligations (statistics on the use of this technology are available on the website of the National Tax Agency). Based on this technology, the Agency has developed a simple system to make the annual tax return. The citizen can ask to be sent by SMS a code that allows you to view a draft of his tax return and then confirm whether he agreed with it. In 2011, in the first two days of campaigning they have been confirmed over 160,000 drafts using this service (official data in the near future on the statistics will be made available online).

► Payment gateway for services in the Basque region

Country: Spain

www.tecnimap.es/es/portal.do?IDM=28&NM=1

The Spanish governments of the different tiers have electronic payment gateways. These gateways integrate financial institutions with e-Government services that require payment of fees by citizens or businesses. There are specific face-to-face services (*e.g.* traffic fines, taxes and customs ports) that could be benefit from e-payment solutions. For this purpose, the Basque regional government has developed a mobile application (Android and Windows CE) device that allows the collection of fees remotely on face-to-face services, integrated with the payment gateway for e-government services. This solution was awarded in 2010 at the national event on Information Technology in Public Administration, TECNIMAP.

► Ticket payment online

Country: Spain

www.malaga.eu/

The Municipal Transport Company of the City of Málaga since 2008 offers the possibility to pay your ticket using your mobile device. There are two versions of the service, an operational one based on the use of SMS and another pilot version using NFC technology.

Booking appointments

► Telephone Booking Service

Country: Hong Kong, China

www.gov.hk/en/residents/immigration/bdmreg/marriage/bookgivingmarriage.htm;

www.gov.hk/en/residents/immigration/traveldoc/hksarpassport/booktraveldoc.htm

In Hong Kong, China, SMS is used to book appointments at document and marriage offices. Besides the online appointment booking service, citizens can make an appointment for giving of notice through the 24-hour telephone booking system. To use the telephone booking service, users dial (852) 3102 3883 using a touch-tone telephone.

► SMS rescheduling an appointment

Country: Malta

http://e-healthsolution.com/Malta.aspx

This service offers also various electronic methods of notification and reminders to the patient such as text messaging (sms) and e-mail. It also provides the means for the patient to manage his own appointments through an electronic facility for rescheduling and cancellation of an appointment.

► Booking medical appointments

Country: Spain

www.castello.es/

The City of Castellón deployed in 2008 a service for medical appointment for the hearing impaired using SMS. The service allows disabled citizens to make an appointment at the Hospital of the town by using the mobile device.

► Vivifacile: services for school and motoring

Country: Italy

www.vivifacile.gov.it/

https://scuolamia.pubblica.istruzione.it/

https://www.ilportaledellautomobilista.it

In the framework of an overall strategy regarding convergence and multichannel approach, Italian government has been developing in the last years several initiatives, more recently (2010) integrated in a single portal "Vivifacile" which provide a multichannel service delivery (including web, email, phone and SMS messaging). Two main areas of services are fully enabled so far:

- ScuolaMia (School services): services concerning, on the one hand, the relation between family and the school, such as digital report, communications relating to school life of students, booking appointment with teachers and notification to parents, in real time, by SMS about the absence of students; on the other hand, services concerning organisational matters (see example for G2E).
- Portale dell'automobilista (Driver's Portal): services related to driver license, on line payment, data consultation about vehicles, status of

procedures and registrations of vehicles. To access the drivers portal, the ministry of transport and infrastructure has also developed an application for iPhone (“ iPatente”).

Transportation services (buying train tickets; paying for a car park with SMS)

► SMS Parking Payments

Country: Estonia

www.tartu.ee/data/Mobilepercent20servicespercent20inpercent20Tartu.pdf;

www.mgovworld.org/PractitionerViewPoint/hannes-astok-member-of-parliament-former-deputy-mayor-city-of-tartu-estonia;

In the Estonian city of Tartu, 50% of parking payments are made through mobile devices.

► SMS Public Transport Tickets

Country: Finland

www.vr.fi/en/index/junaliput/liput/matkakortti_hslalue.html;

www.hel.fi/hki/HKL/en/Etusivu.

In Finland, SMS tickets can be used for Helsinki’s public transport system. These tickets can be ordered by sending a text message, and the user is billed through his or her regular mobile phone bill. The ticket itself is also delivered to the commuter by SMS.

► SMS Rail Ticket

Country: Austria

www.orange.at/Content.Node/presse_englisch/press_releases/press_releases/20040929.de.php;

www.nfc-forum.org/resources/presentations/Christoph_Koessler_Mobilkom.pdf;

http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTEDEVELOPMENT/0,,contentMDK:21180737~menuPK:3320268~pagePK:210058~piPK:210062~theSitePK:559460,00.html.

In Austria, train e-tickets can be purchased by passengers before boarding the train.

► Gozo Channel SMS Notification

Country: Malta

https://mygov.mt/portal/(o10pxlvmjbarbc55w5d1i445)/webforms/faqs.aspx.

This service provides an automated notification about: *(a)* changes in the trip timetable due to weather conditions, service diversion from Cirkewwa to San Maison or any unforeseen circumstance; *(b)* the recommencement of service following a cancellation; *(c)* reminders about seasonal timetable changes; *(d)* information about promotional schemes and travel incentives; and events happening in Gozo.

► Trenitalia mobile

Country: Italy

www.trenitalia.com/cms/v/index.jsp?vgnextoid=e5b343c296a3e110VgnVCM1000003f16f90aRCRD

Trenitalia developed several mobile application to access the services, the main are Prontotreno and mobile.trenitalia.com:

- Prontotreno is the new service to download into all "java" mobile phone to see timetables, buy tickets, make booking changes and check on punctuality.
- Mobile.trenitalia.com is a web based service that allows to buy train ticket, change booking, get information on timetables and train punctuality, directly from mobile phone with an Internet connection.

Signing transactions with mobile signatures

► Access Public Services via Mobile Digital Signatures

Country: Sweden

www.ireach.ie/failid/ireach_booklet_2007.pdf;

www.sp.se/en/digitalsignature/Sidor/digitalSignaturesFAQ.aspx;

www.symantec.com/connect/articles/digital-signatures-and-european-laws

Citizens can use their mobile phones to access public services via digital signatures and unique IDs. A mobile channel to find temporary daycare workers has been set up. This enables the integration of social welfare

services, as citizens can access a range of services from their mobile phones via the Swedish online social welfare portal using eIDs and digital signatures.

► Mobile phone signature "Handy Signatur"

Country: Austria

www.digitales.oesterreich.gv.at/site/6791/default.aspx
www.buergerkarte.at/index.en.php

As an alternative to smartcard-based eID, Austria has developed a mobile phone signature ("Handy-Signatur"), which is an eID and at the same time a qualified electronic signature. The signature itself is not created inside the mobile phone (SIM card), but it is instead created remotely in a hardware security module. The citizen card concept offers functionality for the identification and authentication and – by using qualified electronic signatures – constitutes the foundation for legal security. As the citizen card concept is built upon open standards, it allows all signature cards and storage mediums, which fulfill citizen card specifications and legal requirements to be used. The concept just determines certain standards in terms of functionality. There are no restrictions to the concrete, technical implementation as long as the legal requirements (such as usage of "secure signature creation devices") are met. This fosters solutions in different technology sectors such as the mobile phone sector.

This server-based citizen card solution for qualified electronic signatures means a further important step towards usability and dissemination of modern e-government services. Users can indeed benefit in several ways from the further development of the citizen card concept – they will save money and time. Users do no longer have to install certain software on their PC, they don't need special computer skills or technical knowledge to use their mobile "citizen card", *i.e.* to place their qualified electronic signature on contracts; for official applications; in the fields of electronic billing, e-banking, e-payment or logon processes. The use of familiar technology (mobile phone) helps citizens feeling confident with the new provided opportunity. Furthermore, acquisition costs for smartcards or smartcard readers – so far a big hurdle in the rollout process – will not represent a problem any longer.

4. Governance services

Citizen engagements (to strengthen citizen-centered approach to government, to involve citizens in policy development and decision making)

► M- government @ m- city

Country: Estonia

http://mgov.edicypages.com/

Estonia elaborated the project M-government @ m-city, which provides m-democracy services, enhancing citizen participation in government, and m-administration services, which improve the efficiency of government agencies and quality of information provision to citizens.

► AMS anti-corruption and transparency initiative

Country: The Philippines

www.partnershipfortransparency.info/uploads/completedpercent20projects/ecolinkprojectcompletionreport.pdf;

http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20100719-281942/Harnessing-people-power-in-fight-against-corruption;

http://spa.hust.edu.cn/2008/uploadfile/2009-4/20090427230800732.pdf

This project hopes to prevent/curb corruption at the local-government level through a series of components that will increase citizen participation, strengthen local mechanisms, and reduce funds; for instance, using SMS or text messages to report acts of petty corruption by civil servants. Using their cell phones, people can report graft as it occurs and yet remain anonymous. For example, when a clerk at City Hall asks for grease money, the citizen quietly sends a text message to the hotline number of the Office of the Ombudsman. When the names of the same offenders keep appearing on the database, the claims are investigated. Another example is the possibility for soldiers in the Philippines to use SMS messages to communicate with their leaders if they suspect corruption in the ranks.

► SMS to email channels

Country: UK

http://smsegov.info/images/smsegov.pdf;
www.stirling.gov.uk/bustimetables;
www.stirling.gov.uk/index/council/jobs/jobvacancies.htm

The Stirling Council (UK) receives citizens' messages through the SMS gateway, which converts the messages to emails. The contact center officers respond immediately to the emails. Responses to customers will automatically be converted back into a text message and sent back to their mobile phones.

► e-People: The People's Online Petition & Discussion Portal

Country: The Republic of Korea

www.epeople.go.kr/jsp/user/on/cu/CU02_07.jsp

By allowing real-time reception of civil complaints and policy suggestion on mobile websites, the Republic of Korea is facilitating citizen participation in policy-making.

► Open government

Country: Spain

http://opinaextremadura.es/categories/sanidad/

Among the activities related with the development of "Open Government" in Spain, two regional governments have developed iPhone/iPad applications for the use of these devices in their areas of citizen participation. The Basque Government in 2010 began the development of the initiative Irekia (Open Government in Basque language), in January 2011 the App to access to the service was deployed at the Apple Store. For its part, the Extremadura Regional Government launched its "Open Government" initiative called "Opina Extremadura" at the beginning of 2011, at the same time the application for the Apple devices was deployed.

Several local councils have deployed in different electoral calls a service to provide the citizens access to his census information (voter registry) through mobile devices. An example is the city of Avilés, where citizens can access his census information by sending an SMS containing a password and the National Identification Number. Also during the election day was provided information related to participation in elections.

Civil Services

► Internet Civil Services

Country: The Republic of Korea

www.minwon.go.kr/new_info/customer/AA090_CM010_mobile_info.jsp

The Republic of Korea provides frequently used civil application services through smart phones and citizens can now view the process of their application regardless of time and place and in a more convenient way via smart phones rather than visiting public offices in person or accessing to the Internet. Particularly, mobile security features encrypting communication sections and personal information as well as prohibiting storage of process information leads to stability of mobile services.

Elections and voting

► SMS Results of the Presidential Elections Alert

Country: France

www.textually.org/textually/archives/2007/05/015745.htm;

www.consulfrance-jerusalem.org/france_jerusalem/spip.php?article578;

http://messagebuzz.blogspot.com/2007/05/presidential-election-results-by-sms.html;

www.textually.org/textually/archives/cat_sms_and_politics.htm

An SMS alert with the first estimated results of the presidential elections was sent in France in 2007. To sign up, French mobile users need only to type in their cell phone number on the Presidentielles.com website.

► SMS broadcast general election information

Country: Indonesia

http://news.xinhuanet.com/english/2009-03/20/content_11041933.htm;

www.textually.org/textually/archives/2009/03/023060.htm;

www.textually.org/textually/archives/cat_sms_and_politics.htm

Indonesia broadcasted information from the 2009 general election via SMS to around 155 million cell phone users nationwide. With the help of 10 telecommunication operators, the SMS service subscribers were made

aware of the importance of the general election. A total 162 million phone numbers will receive election messages via SMS, consisting of 135 million cell phone numbers and 27 million wireless fixed phone numbers.

► SMS-Voter registration

Country: Kenya

www.ictworks.org/tags/voter-registration;
http://allafrica.com/stories/201005051017.html;
http://allafrica.com/stories/200801080868.html;
www.w3.org/2008/10/MW4D_WS/papers/hellstrom_gov.pdf

In the run-up to the 2007 Kenya elections, the Electoral Commission of Kenya (ECK) launched a voter registration service where citizens could SMS the register by sending an ID number to receive verification of voter registration.

► Voting through the use of text messaging using mobile phones

Country: UK

www.ipswich.gov.uk/downloads/E-government_Strategy_2003.pdf;
www.ipswich.gov.uk/site/index.php;
www.m4life.org/proceedings/2005/PDF/23_R353DD.pdf

Norwich City Council and Ipswich Borough Council (UK) are providing new means for voting through the use of text messaging using mobile phones.

► SMS to find the polling station

Country: Venezuela

http://personaldemocracy.com/content/sms-monitored-venezuelas-election;
www.textually.org/textually/archives/2006/12/014414.htm;
www.textually.org/textually/archives/cat_sms_and_politics.htm

During the recent Presidential Election in Venezuela (2006), nearly 8 million voters used SMS to find their polling station. The SMS application to handle enquiries from the 16 million registered voters was used by 7.8 million voters. The Consejo Nacional Electoral (CNE) also used SMS to tell with the 350 000 electoral witnesses where and when they should receive their training. The text in number was widely promoted by TV, broadcast radio and newspapers.

► Mobile Voting

Country: Estonia

http://gizmodo.com/5108828/estonia-will-be-the-first-country-to-elect-politicians-using-mobile-phones;

www.phonearena.com/news/Estonia-to-allow-voting-via-SMS-by-2011_id3579;

www.electricpig.co.uk/2008/12/15/estonia-adopts-sms-voting/;

www.textually.org/textually/archives/2008/12/022032.htm;

www.textually.org/textually/archives/cat_sms_and_politics.htm

In 2011, Estonians will be able to elect their representatives using cell-phones. The voters will just need to previously obtain a free authorised chip. This chip will have an encrypted digital signature, which will allow them to identify themselves and vote using a text message.

G2G – Government to Government

Coordinate government's activities for inspections, controls and supervisions

► Fire Department Mobile Inspection Service

Country: Brazil

http://lists.w3.org/Archives/Public/public-mw4d/2008Oct/att-0026/PDF-Presentation-M-GovBrazil.pdf

In the Fire Department Inspection Service in Brazil, all information on safety conditions of a building is stored in a PDA device. Data is transmitted to a central station using a cell phone connected to a PDA via infrared. No form manual filling and no data typing.

► Wireless fleet management solution using in the Insecticide Control

Country: USA

www.keysmosquito.org/

In the Florida Keys Mosquito Control District, to effectively and efficiently use their 61 vehicles engaged in insecticide control to prevent the spread of West Nile Virus and other mosquito-borne diseases in over 1 million acres of coastal marshland. They are now using a wireless fleet management solution that monitors the locations, heading, speed and insecticide applications of all

their vehicles in real time. The information wirelessly provided by their vehicles is displayed on a digital map screen at district headquarters in Key West. The digital map monitors what each vehicle is doing, where it is spraying (or dropping) chemicals, and the vehicle rates of speed. This allows supervisory staff at headquarters to monitor vehicle progress and instruct personnel as necessary. The system also allows them to generate reports both in real time and on a historical basis (for example to demonstrate spraying activity over a period of time or to calculate cost analysis information).

► Mobile Government Initiative in Beijing

Country: China

http://mobility.grchina.com/mGov_presentation.pdf;
http://mobility.grchina.com/

In the Case of Dongcheng District in Beijing, the mobile system, together with the grid management and process re-engineering, has enabled the District to better manage its mobile work with both efficiency and effectiveness. Through the split of the enforcement and supervision, the process is changed, and stimulated the resolution of the problem. The reinforcement of the co-ordination functionality of District Integrated Municipal Administration has facilitated the information flow between the fragmented departments.

Security Services (law enforcement, citizens security)

► TBS (Trafik Bilgi Sistemi) or Traffic Information System

Country: Turkey

www.milasguvenlik.com/modules/news/article.php?storyid=25;
http://tkm.ibb.gov.tr/its/itsMbs.aspx

In Turkey, mobile traffic units are equipped with tablet PCs to quickly conduct queries regarding offending drivers' license and vehicle information. This increases the efficiency of the mobile traffic units. The command center and mobile users can communicate via a real-time messaging system, using custom or pre-designated messages. The mobile units can conduct real-time queries regarding drivers' license information, vehicle registration, citizen identification and drivers' point status. The online queries decrease the waiting time significantly, increasing the effectiveness and the efficiency of the mobile units.

Emergency management

► Disaster and Management of Information System for implementing mobile technology for disaster management

Country: Bangladesh

www.dmb.gov.bd/;

www.m4life.org/proceedings/2005/PDF/25_R373CG.pdf

In the proposed model, the Disaster Management Bureau (DMB) will play the central role of co-ordination for implementing mobile technology for disaster management. This DMB has a line of communication with other weather forecasting agencies. The weather forecasting agencies will forecast the disaster (cyclone, for example), and pitch this information to the DMB. Disaster warning, rescue and recovery information will be disseminated through two separate but complementary approaches. One is the formal channel of communication, like local authority and local disaster shelters. To implement this channel, the prerequisite is that all local centers will have at least one mobile phone. It is also possible to select a local representative who owns a mobile phone to keep communication with the centers that don't have mobile phone. The central co-ordinator (DMB) will send updated information to the local centers which in turn will be distributed using both online and offline media. This weather information will be highly specific depending upon the cell of the mobile phone.

► Earthquake Monitoring and Information System

Country: Turkey

www.iitk.ac.in/nicee/wcee/article/13_272.pdf;

www.arkitera.com/haberler/2002/08/16/aria1.htm

www.koeri.boun.edu.tr/depremmuh/eski/EWRR/EWEngWeb/TurAnaSayfa_eng1.htm

The Government of Istanbul promotes a project which links the 100 seismographs in Istanbul via GSM. In case of an earthquake, the seismographs send information to the observatory via SMS. The collected and analysed information is then disseminated to the involved governmental organisations (such as civil defense, emergency units, municipalities, local governor, military and etc.) via GPRS. The system is expected to be of extreme use in case of an earthquake, where officials and governmental institutions that are mobilised in the disaster area need real-time and accurate data.

Wireless Communication System in the field in case of fire

Country: USA

www.nyc.gov/html/fdny/html/home2.shtml

In New York City, the fire department has installed a wireless system that allows, among other things, "mobile access to the e-mail system." The system also uses "BlackBerry technology and customised Mail Extension software." This software provides communication between FDNY headquarters and firefighters in the field. This infrastructure is powered by "end-to-end (Triple DES) encryption, FIPS 140-1 certification, and optional support for the S/MIME security standard".

Electoral process

Country: Spain

http://elecciones.mir.es/locales2011/Visitas_virtuales/Mesa_Administrada_Electronicamente/Mesa_Administrada_Electronicamente.htm

In different electoral contests since 2008 the national government and regional governments have used mobile devices to facilitate the proclamation of election results. The officials present at the recount are equipped with PDAs with access to mobile networks; these devices are used to communicate the results to the data processing centre. This solution is necessary given the high number of municipalities in Spain (over 8000), a large proportion of them in rural areas. This solution is implemented by INDRA, a Spanish multinational company specialised in electoral processes. The description of the solution for the case of the Catalan regional elections can be consulted in the website of the company.

Additionally, new electronic voting stations are going to be used in the forthcoming elections on 22 May 2011 in five pilot councils and mobile technologies will play an important role (for a virtual visit of the application use the URL provided above).

G2B – Government to Business

► SMS Alerts in case of the security threats

Country: UK

www.cityoflondon.police.uk/CityPolice/Departments/CT/Services/alertschemes.htm

In the UK, the London police have included text messaging in their alerting service options. This service sends alerts to businesses in London about security threats, including bomb alerts. The 24-hour service contacts all users in real time with a message that is sent within 30 seconds of the alert being received by the police. Despite a monthly fee for the pager/text message service and the existence of a free email service, more businesses signed up for the pager/text message alerts (1 121 firms in total) than for the email alert system (589 firms). Such figures indicate the popularity of m-government services.

► TradeNet – a nation-wide Electronic Data Interchange (EDI) System

Country: Singapore

www.thailandnsw.org/News/TradeNet-ADB-v2-Eng_Singapore.pdf

The Singapore TradeNet allows various parties from the public and the private sectors to exchange structured trade message and information electronically. It links multiple parties involved in external trade, including 34 government controlling units, to a single point of transaction for most trade-related transactions such as Customs clearance and payment of duties and taxes, processing of export and import permits and certificates of origin and collecting trade statistics.

► SMS service for agribusiness – CELEPAR, State of Parana IT Agency

Country: Brazil

www.cidadao.pr.gov.br

http://lists.w3.org/Archives/Public/public-mw4d/2008Oct/att-0026/PDF-Presentation-M-GovBrazil.pdf

A SMS message is sent for each registered farmer with the daily price of the products they grow. An alert message is also sent for the region with very low temperature forecast.

► Single Window for Business Support Services

Country: The Republic of Korea

http://m.g4b.go.kr/svc/mob/sma/aut/mIndex.do

The Republic of Korea has introduced various information service required for business activities such as industry information, business news and government aid programs on a single mobile website (*m.g4b.go.kr*). Moreover, it provides information on the progress of test inspection and certification application registered online by businesses and offers services issuing and retrieving performance reports and certificates.

► Mobile Message Service

Country: The Republic of Korea

www.mgov.go.kr/mgov_portal/index.mgov

In the Republic of Korea, National Computing and Information Agency carries out integrated operation and management of information systems of each government organisation. It provides information on failure alerts, maintenance status and results to each officer through SMS. In addition, the Republic of Korea provides government organisations with SMS/MMS, mobile civil complaint service, and an environment for MSG and WAP services to achieve m-government.

G2E – Government to Employee

Mobile workers

► Mobile Field Inspection System

Country: Hong Kong, China

www.m4life.org/proceedings/2005/PDF/7_R133CB.pdf;
www.palm.com/hk/ie/business/learn/success/stories/hk_edp.html;
www.epd.gov.hk/epd/eindex.html

The Environment Protection Department (EPD) of Hong Kong, China, is the authority in charge of environmental issues; it conducts regular inspections on chemical waste collectors and compiles the compliance results. Prior to the implementation of the Mobile Field Inspection System, the inspectors were writing their reports on paper and then re-entering the same data into the database at the office. This business process was not very efficient. Therefore, EDP introduced a mobile field inspection system

which uses touch-screen PDAs to enter the inspection information at the scene. The inspectors are also able to review the results of past inspections through their PDAs to have better knowledge about the inspected waste collector. Once the data is stored in the PDA, it is transferred directly to EDP's back-end system.

► North London Strategic Alliance Street Wardens Project

Country: UK

www.nlsa.org.uk/

Street wardens fill in information regarding the incident at the scene using a mobile device like a XDA2 smartphone or Pocket PC, which have GPRS and Bluetooth connectivity as well as mapping capabilities. These mobile devices allow instant transfer of the information to a password-secured database accessible via the Internet, significantly enhancing responsiveness, as well as the accuracy of the information. Using their mobile devices, the wardens can also now take pictures of environmental crimes to support their formal letter to the citizens involved.

► M-Signature for civil servants

Country: Spain

Spain is pioneering the use of electronic signature not only for its use in services for citizens and businesses, but also internally to support G2E applications, often through applications specialised in the management of e-signatures. The use of electronic signatures on mobile devices has limitations, which is why the Ministry of Industry, Tourism and Trade has developed a specific application for Blackberry and iPad devices for the usage of the senior staff. This application allows the senior staff to use e-signatures remotely without implementing the signature algorithm in the mobile device. The application is integrated with the electronic signature platform of the Ministry and has won awards at the national fair of information technologies ASLAN.

► ScuolaMia – Convening substitute teachers

Country: Italy

https://scuolamia.pubblica.istruzione.it/

Within the services enabled by ScuolaMia, schools can contact substitute teachers sending SMS (or certified e-mail depending on the choice made by the teacher).

► Open Government Data Initiative (OGDI)

Country: The Republic of Korea

The Republic of Korea pushed forward two core initiatives in 2010:

- Developing a "Government Shared Services Platform" to guarantee interoperability of Open API and ease of use (there are 126 services in 13 areas which are provided through a "Utilization standard link platform"). The government will develop shared services through a yearly survey, and plans to lead resource utilisation and value creation for up to 100 shared services.
- Developing and providing 13 open API services which have high reuse demands and impact.

The "Government Shared Resources Platform" provides a basis upon which usable open API services can be searched easily and reused. The Korean Government is expecting these open API services to be utilised and mashed-up in various fields such as mobile applications, smart TV, legacy system, etc. Also, the platform provides technical standards, regulations and common functions to reuse and mash-up services.