CREATING SMARTER CITIES

CITIES

LESSONS FROM THE SMART CITIES PROJECT

They are at it everywhere. At work, at home, on the train, even in the aisles of supermarkets, there are people staring at those tiny screens, swiping and flicking their way through emails, playing games and downloading the latest app.

The smartphone brings convenience, connectivity and instant communication to every citizen. And now is the perfect time for cities across Europe to get smart too.

We don't mean that every municipality should spend their precious funds developing smartphone apps. No, cities need to be much, much smarter than that!

When we talk about smart, we mean a new way of 'thinking and doing' that puts citizens, visitors and businesses – the 'customers' of a municipality – first. Cities must be dedicated to meeting their demands and needs, and continuously improving the services they deliver.

The smartest cities and towns in Europe are discovering how to use technology and redesign internal operational procedures to deliver more efficient and effective services to their customers. Some municipalities may have to reengineer their business processes, some may choose to centralise their customer service activities. Sometimes they may have to think more strategically about the channels they use for customer interactions. Perhaps the city needs a strict structure, or architecture, for its information and communication systems. Perhaps they may decide to collect, combine and analyse data about their customers to reveal new insights into their needs and behaviours.

Whatever changes a municipality must make, customer-centricity – the true essence of 'smart' – comes down to people. Technology is a means to an end, but a clever new e-service will all but fail if people don't like it or won't use it. Municipal employees, whether they are inconspicuous administrators or face citizens every day in a neighbourhood office, must understand that their work must always focus on servicing customers. Customers, meanwhile, must be ready to engage with their city authorities and work in partnership to make ever e-service deliver on its promises.

Customers are certainly at the heart of today's smart city. In some places there may even be an app to prove it.

The Smart Cities project brings together local authorities and academic partners from 13 cities in the North Sea region to share ideas and pilot initiatives to make their cities smart. Over three years they have collaborated to develop and deliver better, more customer-focused electronic services.

In this booklet we give you our whistle-stop tour of our main findings and conclusions. You may already be an expert with many ideas and experience in this field. Or you may find our ideas new, exciting and thought provoking. Wherever your municipality finds itself on the path to customer-centricity we hope that this publication will inspire you on your journey and point you to places – people and publications – where you can find out more.

The Smart Cities team

Smart Cities is partly funded by the Interreg IVB North Sea Region Programme of the European Union.

ABOUT SMART CITIES

Bringing local governments and academic partners together, the Smart Cities project has spent three years developing and demonstrating a new baseline for municipal e-services in the North Sea Region.

"The proposition is simple: governments that want to serve their people, need to serve them efficiently. We must get the most out of every euro we invest. E-Government is not a niche; it is the main game in public service delivery."

Neelie Kroes, European Commissioner for the Digital Agenda

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THE CITY OF EDINBURGH COUNCIL

Edinburgh Napier
UNIVERSITY

KRISTIANSAND KOMMUNE

JADE HOCHSCHULE
Wilhelmshaven Oldenburg Elsfleth

CITY OF KARLSTAD

KARLSTADS UNIVERSITET

Bremerhaven
Meer erleben.

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PROGRAMME OF THE EUROPEAN UNION

"Smarter Cities, Smarter Services. Creating an innovation network"

BUILDING ONE EUROPEAN SERVICE LIST

A service list provides a catalogue of the services delivered by an organisation.

10 reasons to use a service list

1. Share resources, content and generic templates.
2. Define the relationships between services and organisational resources.
3. Insight into service users.
4. Insight into the 'baskets' of services typically accessed together by customers.
5. Improved social inclusion by designing services to meet user demands.
6. Increased staff productivity.
7. Information management.
8. High quality of data.
9. Data for analysis, costing and benchmarking.
10. Greater interoperability and openness for partnerships.

'The European Service List' lists all the services provided by Smart Cities municipalities, helping them to share data, compare their activities and

benchmark their performance. The list provides an excellent starting point for any municipality in Europe wishing to draw up and benefit from a service list.

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Co-design in SmartCities

> " Bolton's whole approach to information management is underpinned by the Service List. "

Sue Devlin - Head of Corporate Information and e Services - Bolton Council

> " The Local Government Business Model lies at the heart of Herefordshire's organisational information architecture. As an industry-recognised model, it is proving invaluable in helping provide standardisation, efficient delivery and clear ownership of information across core aspects of the Shared Services Partnership customer organisations, alongside a programme of major structural and cultural change. "

Rob Guthrie - Information Architect - NHS Herefordshire & Herefordshire Council

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RESEARCH

Triple Helix
Bringing government, academic and commercial partners together for the best result.

The Smart Cities Academic Network brings together academic and commercial partners from across the North Sea Region to support the Smart Cities project.

Edinburgh Napier UNIVERSITY   **Memori** COMMUNICATE, INNOVATE & INCLUDE   JADE HOCHSCHULE   porism limited

The network has provided a wide range of research and evaluation support to the project, and has helped with the planning and delivery of a wide range of events, workshops and publications.

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An introduction to Municipal IT Architectures for Managers

Using Co-design to design and deliver better e-services

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Creating Customer Contact
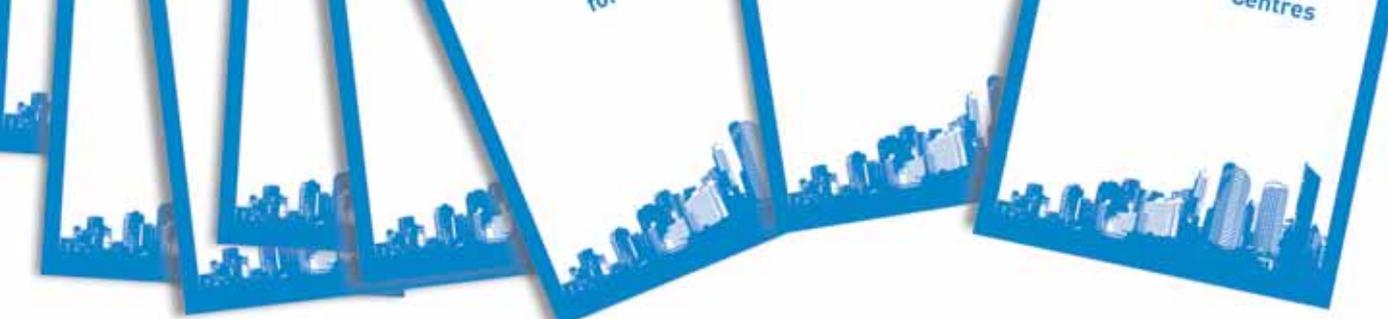
Results

- Practical research reports
- Evaluation of the project's development
- Analysis of the development of e-government in six partner municipalities
- Development of a self-assessment tool for municipalities
- Support of the adoption of co-design across the project
- Improvements in local service delivery in local municipalities
- Communicating the lessons and findings from the Smart Cities project to policy-makers and those involved in e-government activities across the EU

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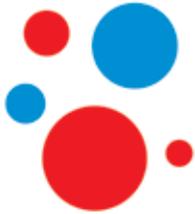
WIRELESS MOBILE

4 different models

Hotspot model

- Best on places with lots of visitors
- Focused on general public
- Low cost, low value
- Free use through sponsoring (pushing content)

Utility model

- Aim to cover as much of a city as possible
- Facilitates the development of professional wireless services
- High cost, high value
- Premium prices for premium services

Grassroots model

- Bottom-up approach (individuals pool assets to get a network)
- Not professional-grade, but good redundancy
- The more people give, the more they get
- Legal pitfalls (authentication, liability,…)

Mixed models

- Combining elements of these three models

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Co-design in SmartCities

"WiFi networks should not be about internet access. They should be about delivering services."

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Kortrijk

The municipality, the university and the high schools of Kortrijk linked their hot-spot networks in the eduroam network. Wherever there is coverage of hotspots from these organisations, students have free and easy access to the internet.

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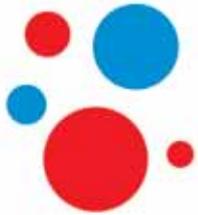
GEO-BASED SERVICES

Your services will have much more impact when they are targeted to relevant areas of your city. Geographic information systems (GIS) give you an excellent view of the geospatial elements related to your activities. GIS is great for analysis and decision making.

> "It is estimated that about 80% of all information contains a direct or indirect geographical correlation."

- Legal aspects
- Administration
- Business
- Agriculture and forestry
- Energy
- Housing
- Environmental protection
- Land use

- Street management
- Parcel management
- City management
- Demography
- Communication
- Recreation
- Transport
- Logistics

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CUSTOMER SERVICES
Bluetooth Content Distribution

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Geoinformation
Systems and
Geobased
Services
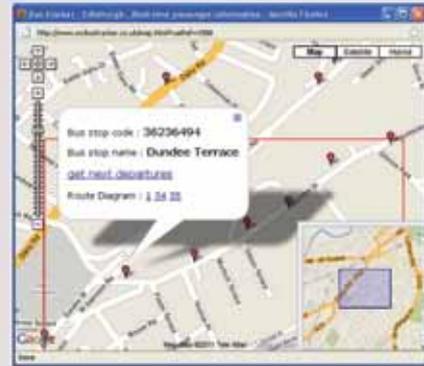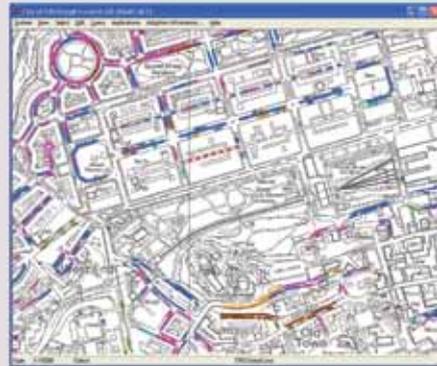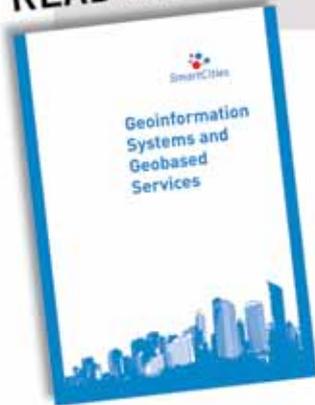
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USING THE SMARTCITIES FRAMEWORK & SELF-ASSESSMENT TOOL TO MAKE YOUR CITY SMARTER

- Framework for local and regional authorities to develop a balanced and comprehensive local e-government policy

- Analysis tool to assess an organisation's ambitions and plans for e-government and to identify priority areas for 'smart' solutions

for the digital client

is sustainable

for the digital community

for the digital citizen

is innovative and experimenting

The Smart City

City

for the
digital city
economy

is an inclusive
digital city

and its
technological
and
organizational
preconditions

for digital
city servants
& represen-
tatives

for the
visitor of the
digital city

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TAKE THE SURVEY

http://www.memori.be/demosc

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RETHINKING CUSTOMER CONTACT CENTRES

The Answer© model

Products/services and channels

Leadership and employees

Delivery of achievements

Process and governance

Systems and information

How can you efficiently serve your citizens across different channels?

Seven steps to customer service improvement

- List all the products and services you offer (create a service list)
- Decide which services you can offer through which channel (desk, paper, telephone, internet, email)
- Find out how your customers want to access your services. (customer profiling)
- Develop a channel strategy
- Set up supporting ICT (invest in an architecture)
- Allow time for change management
- Check the output of your processes (monitoring and quality control)

" You might think that a customer contact centre is merely the friendly face of the council, a communication channel, but we are so much more. Our direct contact with customers

READ MORE...

more. Our direct contact with customers puts us at the heart of the council's vision of customer-centricity. In so many ways, the work that we do is also driving internal change and service improvement. **"**

Mark Francis, Manager, City of Edinburgh Council's Customer Contact Centre

Cases

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The City of Edinburgh Council established its customer contact centre almost a decade ago. It now handles around 1.5 million phone calls a year, and deals with complaints and enquiries from other service channels – including the municipal website and email.

At the DuViTo customer contact centre in Kristiansand, Norway, employees are very engaged with customers and everyone treats each other with respect. DuViTo opened in April 2003, and provides the 'front office' for Kristiansand's health and social services.

Gemeente **Groningen**

By bringing front and back office staff together, Groningen has encouraged all of their employees to learn from each other, to work together, and align their work activities so that the needs of customers always come first.

☏ **1777**

Kortrijk

1777 is the free central phone number in Kortrijk to find information on the city council and all services offered. This number centralises all other information and contact centre numbers.

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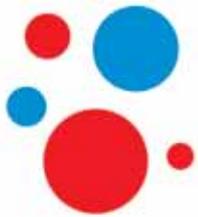
CREATING MUNICIPAL ICT ARCHITECTURES

Would you build a house without drawing up designs and plans?
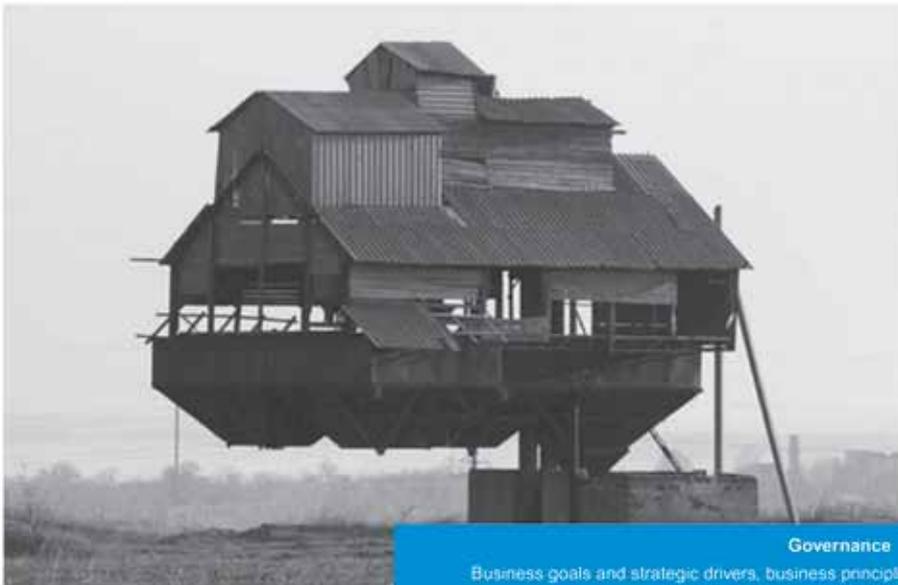
Governance

Business goals and strategic drivers, business principles and guidelines management models compliance to laws regulations and standards

Service orientation

Business architecture

Describing the product and service strategy, the organisational, functional process information and geographic aspects of the business environment based on the business principles business goals and strategic drivers

Interoperability

Characteristics for the architecture domains respectively

- Legal
- Organisational
- Semantic
- Technical

Information systems architecture

Describing information/data structure and semantics, types and sources of data necessary to supoort the business define the kinds of application systems necessart to process the data and support the business

Information security

Characteristics for the architecture domains respectively

- Availability
- Integrity; data integrity
- Confidentiality

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ITC
architecture
reference

Technology architecture
Describing technical components represented by
software and hardware components, available from
the market or configured within the organisation into
technology platforms

- Accountability
- Non-repudiation
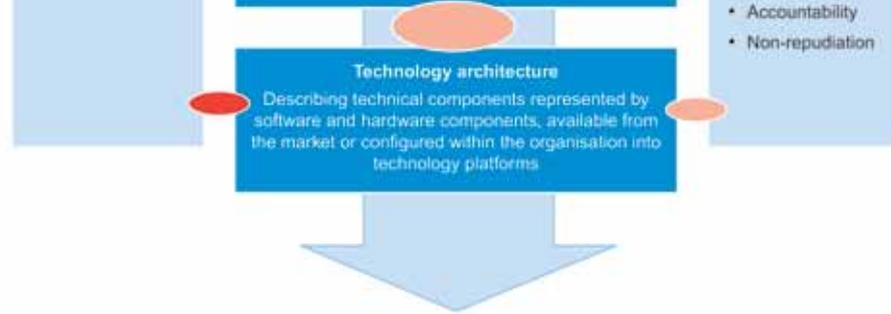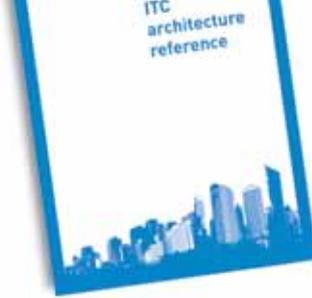
Just a few of the many architecture tools currently available:

| "Tool in the toolbox"	Note
Business process model	Useful for describing business processes
Business services reference architecture	Useful for describing how services relate to each other
Business case description template	Helps setting up a business case
Use Case description template	Helps setting up a use case with actors corresponding to business processes and organisational participants
Class model, and mapping schema	Useful for describing static information and the relationships between information. A class model also describes informational behaviours (methods or operations)
Technology reference architecture	Guidance on technical components and how they relate to each other
Business Process Modelling Language BPMN	Language used to describe business processes
Unified Modelling Language UML	Language used to describe class models
ArchiMate enterprise architecture modeling language	Language for describing an enterprise architecture http://www.opengroup.org/archimate/doc/ts_archimate/

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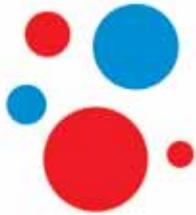
MY CITY ONLINE: THE MUNICIPAL WEBPORTAL

Local governments transform their websites from static information pages to user-friendly portals that empower citizens and encourage them to interact with their municipality.

Rate of technology diffusion into government

Service impact

Citizen participation

Rate of technology diffusion into government

e-Government

Maturity

Service impact

Data management

Government online

Interoperability

Control

- Re-focus on cost, efficiency and quality
- Re-centralisation of some strategy and control

- Widespread adaption of technology
- Driven by business need and new technology
- Decentralisation of strategy and resources

Contagion

Initiation

- Seems like a good idea
- Pilot implementations

Adapted from Davison et al 2005

Time

A maturity model is a tool that shows the link between an organisation's experience and the complexity of the services it is able to deliver. As organisations develop skills and experience, they are able to successfully complete more complex tasks. Maturity models can be used to help organisations identify the skills they need to be able to deliver complex services in the future.

> "We have learned over the years that a good internet presence is an important tool for a local authority to reach out to its customers. A good website is about getting the right information to the right people in their preferred way and improving workflows for municipal employees."

Nicoline Schambach, Press and Public Relations, municipality of Osterholz-Scharmbeck

Cases

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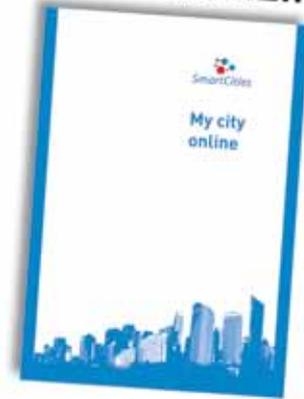
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IMPROVING BUSINESS PROCESSES

The *Common Process* model is a straight forward methodology that helps local governments to think about, describe and improve business processes in a logical, strategic and self-reflective manner. This sets them on a path toward transforming themselves into process-oriented organisations with a customer focus.

Before developing an e-service, process mapping helps to ensure that all the tasks, operations and systems associated with the new service are optimally and appropriately designed.

Process modelling will help you to:

- **Understand and change business in and between organisations**
- **Identify why, what, who and how**
- **Intensify communication**
- **Base changes on knowledge of participants**
- **Get an overall picture of business practices**

7 generic elements in process models:

- **Process goal**
- **Activity**
- **Flow**

E-service process

Time

Requirements

Trigger

Activity/Action (Actor/Org)

Decision

Activity/Action (Actor/Org)

Action Object

Activity/Action (Actor/Org)

Citizens

Answer within 24h

Resource

Activity/Action (Actor/Org)

Role

ERP

Company

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Improving business processes and delivering better e-services

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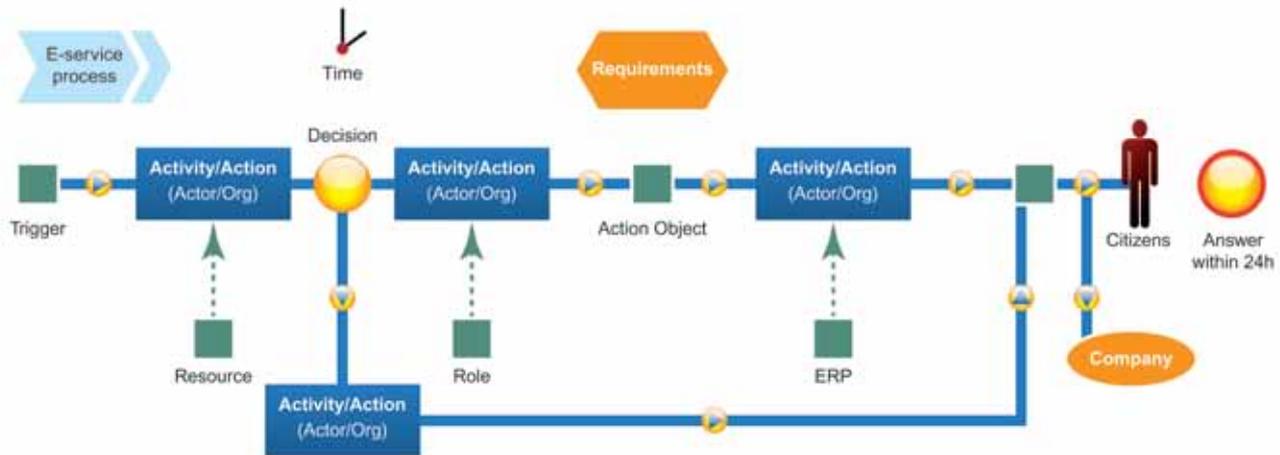
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INTRODUCING CO-DESIGN

Co-design is:

Concrete work with stakeholders

- More than information sharing

A change in mindest

- Be driven by what the stakeholders want

A wholesale change in service design

- A transformation of services, working with end users

Lessons learned:

- Start with the problems your users face
- Focus on design thinking, mainstreaming, citizen engagement and participation
- Be prepared for organisational change
- Work to develop a long-term, trust-based relationship

Cases

LELIJKE PLEKJES

MOOIE TREKJES

Lelijke Plekjes was designed to create co-designed redesigns of 'ugly spots' around Kortrijk. The project asked citizens to identify public places that they felt were tatty, unkempt or unpleasant on the eye. The project aimed to transform these eye sores into attractive, creative places by making use of the creativity of professional designers and creative students from various disciplines such as architecture, arts or urban development.

A landscape designer from the Kristiansand technical department in a workshop with student representatives working on the redesign of their school-yard

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Co-design in SmartCities

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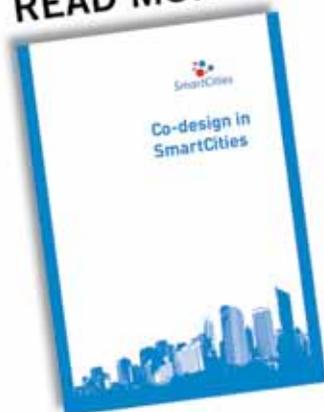
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POLICY & MAINSTREAMING

The policy context has a high impact on the local model of e-government.

- Showing policy-makers good models and best practices
- Mainstreaming: all levels of government must share the same vision (local->EU)
- Influencing European policy, based on tangible results

“No good e-government without good government”

Policy outputs

- DANS cluster - connecting projects to provide a solid basis to achieve high impact results
- Triple Helix - bringing together government, academic and commercial partners for better output
- Citadel Statement – pan-European 'Call to Action' to implement e-government

- ESD toolkit - helping policy-makers understand their customers and target their services

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KNOW YOUR CITIZENS

Output vs impact.

- The Smart Cities toolkit helps municipalities understand their citizens and target services
- Customer insight lets you know your customers' context, needs, wishes and preferred channels of communication and service delivery. This knowledge can help to make your services more targeted and efficient

Local government citizen insight (beta)

SmartCities esd toolkit

| Selection: | Services | ⦿ Europe ○ North Sea Region | | Map view | Data view | Text view |

Households
Services

Advice and benefits
Business and employment
Community safety
Education and learning
Environmental protection
Government, citizens and rights
Health and social care   Adult services
Housing   Care homes, supported and sheltered housing
Leisure and culture   Carers
Licences, permits and permissions   Children and family care
Marine and waterway services   Community centres and facilities
Planning and building control   Doctors, GPs and hospitals
Transport and highways   Health and medical advice

Kaart Satelliet

Information
The predominant Mosaic Global profile group for NUTS3 areas.

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