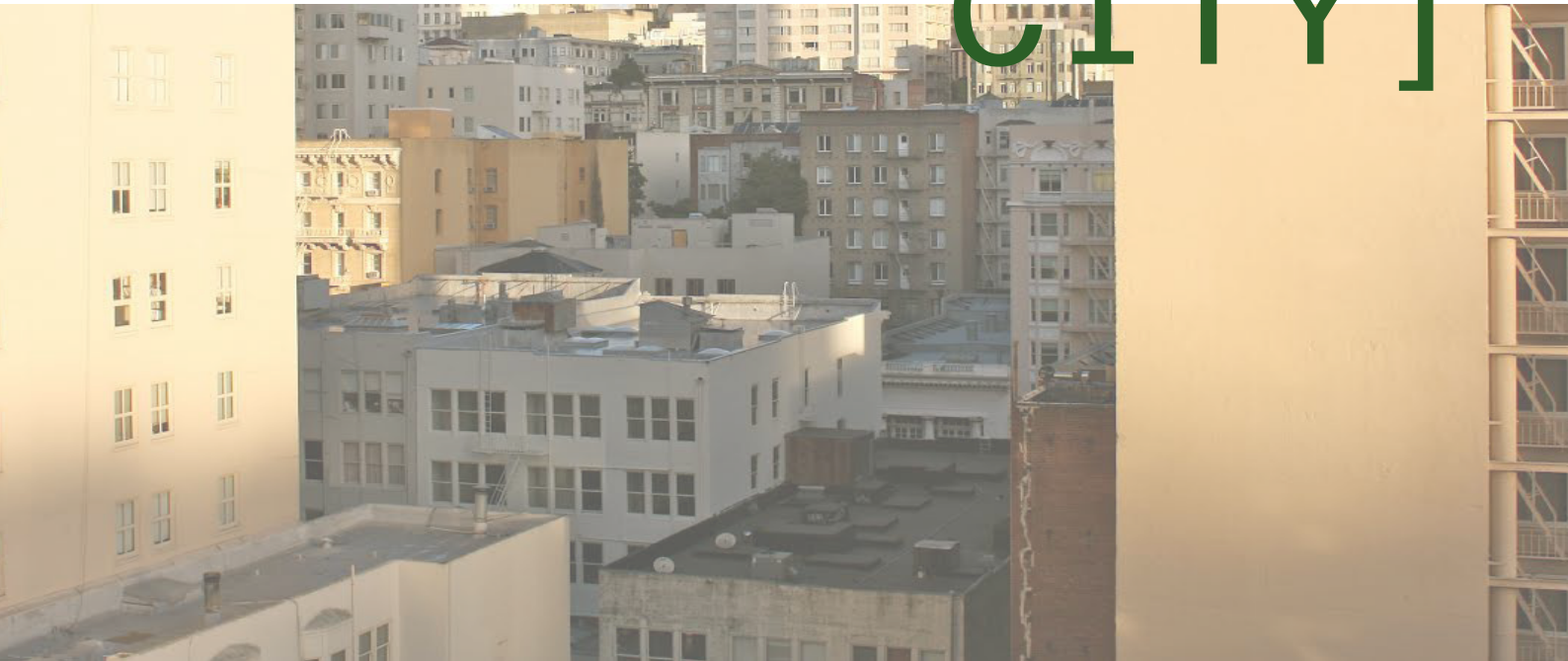


# [ THINKING THE CITY ]



Technical session Urban Regeneration\_  
Diagnostic Tools for Integrated Urban Regeneration

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*“On the behalf of ACCENT partners, thank you for coming to this event. In ACCENT we believe that relevant data and tools can contribute to help cities managing and planning their energy transition. Consolidating and sharing data is a powerful lever to accelerate the journey towards less carbon intensive cities”*

Solenne TESSERON-STEVELINCK. Lead project Manager. ENGIE.



## \_Prologue

### Accent Project. Accompany cities in energy strategy

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#### Design, evaluate and share your energy strategy

Many European cities and regions need a sustainable development strategy that meets energy efficiency challenges. In order to support the energy transition of European cities, Accompany cities in energy strategy (ACCENT<sup>1</sup>) will provide new collective and individual data (statistical, sociological...) and tools (city mapping, building typology by district, insulation, etc.) to city stakeholders. Crossing relevant data helps to diagnose existing energetic situation, to develop strategies in terms of environmental and economic considerations. The interface will contribute to implement new strategies which maximize energy efficiency and renewable energy usage.

#### The climate change issue

Cities have a key role to play in the energy transition which is central to address climate change and resource scarcity. Cities tend to build and implement local energy strategies, often ignoring the global issues, and fail to consider mid-term and long-term scenario. However, many European cities are increasingly attempting to define their local energy strategies integrating both economic and environmental impacts. Copenhagen (Denmark) aims to become the first carbon neutral city by 2025 and Perpignan (France) produces all the electricity for its residents locally by 2015. In order to be effective in their energy transition, cities need to coordinate local stakeholders, provide detailed and relevant diagnosis of their region, and identify the potential for energy savings and renewable substitution. Mid and long-term strategies need to integrate the whole energy value chain, from production, distribution and consumption.

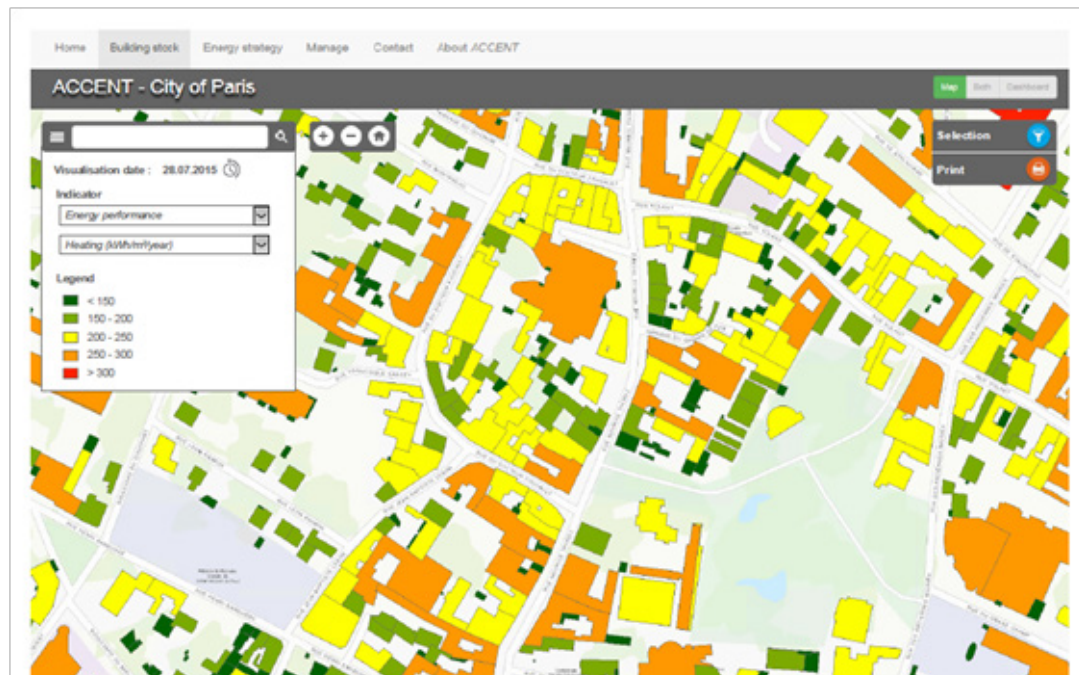
#### The project solution

ACCENT platform will offer an energy diagnosis of city buildings and districts by collecting data such as building typology, regional climate and energy networks and by estimating energy consumption and performance of buildings. City data will be displayed in a relevant spatial scale which will allow local administrations to assess the efficiency of the city and to localize priority zones for action. They will be able to define and assess energy strategies on several criteria: energy consumption reduction, costs and savings and greenhouse gas emissions.

## Diagnostic tools for integrated urban regeneration

They will be able to select the best set of actions based on these criteria. This platform will be used to host and share the content produced. Appropriate data and energy strategy will be shared with other stakeholders such as network operators, urban planners, construction companies and citizens. ACCENT will be also a useful tool for service providers to support their commercial strategies and have a close connection with city planning.

ACCENT services have been designed thanks to a participative and iterative approach with future potential end-users, surveys and market analysis. Moreover the platform tool will allow data comparison between all client cities or regions, to share best practices. Energy efficiency will be translated into carbon impact, a tangible environmental indicator.



1. To find out more about this project, visit [www.accentproject.com](http://www.accentproject.com)

Image 1: ACCENT interface for the city of Paris, showing estimated energy performance of the city's buildings.  
Source: ACCENT project.

The ACCENT tool is being developed and tested in 4 pilot cities: Paris in France, Valencia in Spain, Reggio Emilia and Ferrara in Italy. These pilot cities will provide the basis for refining the functionalities of the tool and its ergonomics, and to test the platform on real cities data.

After this pilot and testing phase, business models and structures to launch the ACCENT tool on the market will be set up. About 500 European cities with over 100,000 inhabitants are potentially the future customers of ACCENT services, especially in France, Spain and UK.

Name	Accompany Cities in Energy Strategy (ACCENT)
Project Type	Innovation project – Develops and brings to market climate-relevant knowledge, products and services
Lead Partner	ENGIE
Project Partners	ENGIE ESRI Switzerland Numtech Instituto Valenciano de la Edificación (IVE) ASTER EIVP SINERGIS arx IT INNDEA
Project Manager	Solenne Tesson, ENGIE
Project Location	Pan-European, co-ordinated from France
Project Start Date	March 2014
Theme	Sustainable City Systems

ACCENT is an innovation project financed by Climate-KIC<sup>2</sup>. Climate-KIC is an initiative of the European Institute of Innovation and Technology (EIT) with a mission to create sustainable growth by addressing climate change mitigation and adaptation. As Europe’s largest public-private innovation partnership we integrate education, entrepreneurship and innovation. By bringing together communities we help transform knowledge and ideas into economically viable products or services that help to mitigate climate change.

2. To find out more about this project or about working with Climate-KIC, visit [www.climate-kic.org](http://www.climate-kic.org)

# Chapter 1

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Approach to urban renovation in consolidated cities



Josep Vicent Boira.  
Regional Secretary for  
Public Works

## 1.1. The potential of Georeferenced Information Systems (GIS) for urban diagnostics

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In order to tackle the issue of the potential held by georeferenced information systems in the field of urban diagnostics, a double-edged approach is needed. Firstly, part of this potential addresses the need for superposition of perspectives in order to improve approaches to city diagnostics, whilst the second one requires a more technical approach, bringing us closer to georeferenced information systems acting as working tools for urban diagnostics.

By means of an initial approximation towards the subject matter, a working line entitled “Thinking the City” has been proposed encompassing all perspectives. Urban diagnostics of the city lead us to the concept of social inequality, as a spatial factor, a concept referred to as spatial dimension of equality. The new frontier that we must put forward, in the near future, is that of using those tools and instruments that allow us to carry out spatial analyses and of the problems arising from inequality in our cities, the issue termed spacialisation of the problems. In this sense, and from the viewpoint of urban diagnostics, it is of the utmost importance to incorporate this spatial dimension into the analysis undertaken. Up to the present date, there has been much discussion regarding social justice, environmental justice or ecological justice, yet a new horizon that must be addressed in our society is spatial justice, with the aim of easing social inequalities present in our cities.

By understanding urban diagnostics for the city in their twofold context, supporting both in the analysis of their qualitative nature as well as their quantitative nature, aids us to comprehend social processes and the urban experience. In this sense, the subjective experience of space, that residents may express, is complementary to the quantifiable data with which we have worked using georeferenced information systems.

For these processes to be successful, it is necessary to have a pluralised perception of space, thus allowing for their technical experts to move closer to citizens’ perceptions and the processes of social participation.

## Diagnostic tools for integrated urban regeneration

Through the understanding of social perspective as a fundamental element that should be used in the instruments for quantitative analysis as a further study layer. Analysis performed from a dual quantitative and qualitative perspective, complementing technical potentiality and proposing a multi-dimensional approach to spatial analysis, implies a post-rational perspective of urban diagnostics.

The second part of this address will be focused on showing some of the existing potential that for the analysis of the city is offered by georeferenced information systems. Systems that still are hindered by a certain shortfall, namely being able to implement all of the processes related to citizen participation or to the subjective experience of urban spaces, proposed from a perspective of qualitative analysis.

Image 2: Image of the SIOSE Project, which develops an information system on land occupation in Spain.  
Source: Address: Josep Vicent Boira.





Geographical information systems are those which allow for the processing of information, that have as a basic premise the reference to a determined system of geographical coordinates, for this reason they have become essential elements for the handling, management and planning of lands. The difference between these geographical information systems with respect to traditional standard mapmaking is the possibility to superimpose different georeferenced layers that allow for the performing of specific types of analysis.

An example of the potential offered by these systems would be the experience of the SIOSE project (Information System in Land Occupation in Spain) an undertaking supervised by the Regional Government of Valencia in tandem with the Valencia Cartographic institute. This project consists of the development of an exhaustive cartographic database containing land coverage. On an urban scale we could identify three basic levels of coverage; historic centre, peripheral urban developments and urban sprawl, within these three items we could also identify amenities, sports and educational facilities, as well as urban parks.



Image 3: Image of the SIOSE Project, which develops an information system on land occupation in Spain. Identification of land uses.  
Source: Address: Josep Vicent Boira.

Based on the first approximation, we could carry out more specific analyses, such as for example, the identification of swells of unconstructed urban lands, that could be made available for the municipality, avoiding thus unnecessary urban developments that could allow for the carrying out of contained urban development policies. Within the specific example of the identification of unconstructed urbanised lands, as this study has been undertaken throughout the entire Autonomous Community of Valencia, we have obtained the total surface area of these pockets of available lands in the entire community. Likewise, we have been able to, at the same time, determine which municipalities must plan the undertaking of new urban developments and which will not be required as they have sufficient land to respond to the demographic dynamics forecast. Bearing this in mind, the type of analysis that makes it possible to use geographic information tools, are key elements when entering into the decision-making process, thus helping to design the strategic action lines for these matters throughout the region.

To conclude this presentation, we would like to highlight the aims envisaged on the part of the Ministry for Housing, Public Works and Land Development. Amongst these aims, worthy of special mention is the incorporation of social perspectives as part of urban analyses and the support of territorial action plans as linking elements for the area. This has begun with the PATIVEL project (Territorial Action Plan for Green Infrastructure on the Valencian Community Shoreline) in which a moratorium of one year has been established, until the plan is approved, for urban development plans that affect the coastline of the region as far as a distance of 500 metres inland. This Territorial Action Plan has as its aim the conservation of the green infrastructures along the coastline, the harmonisation of the legal regime for protected lands, thus ensuring ecological and functional connectivity, avoiding undesired conurbations on the coastline and correcting dysfunctionalities arising from the planning process. Continuing along these working lines, the forthcoming territorial action plan will be named PAT de l'Horta, and will be publically presented in 2016.





## 1.2. Analysis tools in place at the Valencian Cartographic Institute, ICV

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Xavier Navarro  
García.  
Head of the Valencian  
Cartographic Institute,  
ICV

By understanding that any type of data can be georeferenced, geographical information tools are pivotal elements when there is a need to diagnose problems and offer solutions with regard to planning issues in cities. From the Valencian Cartographic Institute, a series of tools are made available for analysis and urban planning that will be discussed in greater detail in the coming paragraphs.

The first tool offered is the Terrasit two dimensional viewer, which is maintained by the Valencian Cartographic Institute. This viewer allows for the loading of information, both from the ICV itself, as well as that from other institutions, the consultation of different types of information and incorporation of own information from the user, utilising both the raster as well as vector formats. Through this basic two dimensional viewer other viewers offering specific items are made available, such as the Valencia photo library, a viewer for historical images fitted with orthophotos, the town-planning viewer and the latest viewers developed, such as the Orux ICV that allows for the loading of cartographic information onto mobile devices, thus permitting online and offline functionality.

Focusing on the urban development viewer, from the information on urban planning developments that the viewer comes loaded with, we can query both the classification of the municipal planning measures as well as the land classification. At the same time this viewer allows for us to access actual documents for said planning measures in two ways, through the cartography uploaded to the Terrasit platform or through the information provided by the heads of department for urban planning in each municipality. Documentary information is also facilitated with regards to planning measures, notifying the user of the current status of the of the planning measure and whether or not this is up-to-date, or whether or not this is under review.

## Diagnostic tools for integrated urban regeneration

The second view viewer displayed is that of the Valencian Phonoteque, which in this case is a viewer that contains 134 aerial flights, amongst which we can highlight the 1933 flight over the south of Alicante, of which we only became aware of its existence recently, as well as the 79,434 stills available to the user. This viewer allows for the loading of flights over certain areas, using tools such transparencies that allow for the studying of the evolution of the region. Another highly interesting possibility with regard to urban analysis is the possibility of downloading stills from their projection centres, both those belonging to the ICV itself as well as those held by other administrative bodies, with whom distribution agreements have been reached.



Image 4: Image of the Terrasit platform, in which access to the different thematic viewers can be seen.

Source: <http://terrasit.gva.es/>. Recovered, December 16th 2015.

The historical orthophoto viewer includes orthophotos of the entire region of Valencia from the year 2000 up to 2012, thus allowing for the accessing of orthophotos available for the working area, also providing the possibility of applying viewing tools for the study of the evolution taking place in the region. The difference between orthophotos and stills is that the orthophotos have a metric capability, and therefore allow for the carrying out of measurements, meaning that this characteristic equips orthophotos with a fundamental quality when undertaking metric analyses.

Next, we shall present the catalogue of metadata and services offered by Terrasit. This is an infrastructure for specialist data from the Valencian Regional Government. This viewer allows for the obtaining of information of all data and services for maps available within the ICV infrastructure, accessing also the descriptive information for the associated data and services, as well as providing access to the mapping service URL, to be able to undertake analysis of a geographical information system. In this catalogue, searches can be performed to find the information necessary and implant this into our study, such as, for example, the maps on housing developments and complexes within the Valencia Autonomous Community, maps for irrigation ponds or maps of water basins, this type of information being available both for regional as well as city-based analysis, allows for the combination with other types of information to obtain an overall vision of the region, suitable for urban and territorial planning.



Image 5: Image of the SIOSE Project, example of how unconstructed areas of land can be identified, in this case the urban area of Vinaroz.  
Source: Address: Xavier Navarro.

The information which the Valencian Cartographic Institute has can be consulted through downloads from the user's own geographic information system, obtaining thus both in-depth cartography as well as vector data for their handling. The ICV has as its aim making available to the entire administration a basic set of cartographic elements, permanently updated, for all types of analysis needed for development and urban planning.

There are also other types of information, whose access is somewhat more restricted, which has been obtained through LIDAR. LIDAR is a laser scanner that allows for the obtaining of x y z coordinates within the region with an accuracy rate of one point per metre for x y, and an accuracy rate of thirty centimetres in terms of height, allowing for the obtaining of rather precise digital models of the region.

Along with all of this basic cartography discussed beforehand, there is also another specific set of cartography such as the SIOSE created in 2009, which is currently being updated, as well as three-dimensional cartography showing green infrastructure, nomenclature, etc. The SIOSE (Information System in Land Occupation in Spain), is a state plan that has been developed in the Valencia Autonomous Community by the ICV. This project consists of a cartographic database showing land occupation, in which the region of Valencia has been segmented into 160,000 plots in order to specify in each one of these coverage in a detailed manner.

Furthermore, there is the possibility of downloading the cartography for spatial analysis from the Terrasit page where this is hosted. In the spatial data infrastructure, the download area can be accessed, where cartographic elements prepared topographically are available that make it possible for studies to be carried out in GIS environments, as well as providing MDT information for studies into visibility, environmental impact or flooding, amongst others.

To close, we would like to present the latest database created, using the INSPIRE Directive. This database binds the transport network for the Valencia Regional Government, named XTCV. Here we are dealing with a database providing geospatial referenced information which integrates all of the existing and future information relating to transport networks and installations in an ordered, standardised, accessible and consultable manner. This is network operating on a multimodal scale that allows for the reduction of costs and avoids the duplication of efforts, thus allowing for the compliance with our obligations in terms of the INSPIRE and LIGISE Directives in which the network for infrastructures, installations and transport are respected, prior to their conclusion in 2017.



## 1.3. Urban vulnerability atlas

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Eduardo de  
Santiago Rodríguez.  
Technical Advisor on  
Land Use and Urban  
Policies Ministry of  
Public Works

The issue of urban vulnerability and impoverished neighbourhoods is a matter of the utmost urgency on a European level, an example of the special awareness with regard to these issues is the recent notification on the part of the European Commission of the plans named “Innovative Urban Actions 1” for cities. Specifically, in the aforesaid notice, one of the working lines refers to innovative urban actions in impoverished or vulnerable neighbourhoods. In accordance with the importance of the topics of urban regeneration on a European level and as a means of approaching the topic of urban vulnerability in Spain, we shall begin by seeing some of the tools on-hand for the diagnosis with regard to urban vulnerability in Europe, specifically case studies in the United Kingdom, France, the Netherlands and Belgium.

In the United Kingdom, work has been performed on deprivation indexes for many years, although they do not cover the entire area, they are highly developed in the case of England. They operate through their statistical information unit, the LSOA, which would be the equivalent of our census sections, with the difference that their LSOA are invariable over time whilst our statistical units do vary over time, thus making it more complicated to carry out time-factored analyses. The working methodology used is of a multifactorial nature based on the deprivation indexes, which at the same time synthesise numerical indicators. The Index of Deprivation 2007 (ID 2007) is a complex index that is comprised of the Index of Multiple Deprivation (IMD 2007), the Income Deprivation Affecting Children (IDACI) 2007, a vulnerability index referring to the infant population and the Income Deprivation Affecting Older People Index (IDAOPI) 2007, a vulnerability index referring to senior citizens. All of the georeferenced information is implemented into a geographical information system which allows for this to be analysed and shared whilst, as has been mentioned previously, its LSOA statistical information unit is invariable over time.

## Diagnostic tools for integrated urban regeneration

In France there is a consolidated neighbourhoods' policy named "politique de ville". Vulnerable or impoverished neighbourhoods at risk are marked out and acknowledged by the Law as Sensitive Urban Areas (ZUS), with this recognition meaning an important series of advantages with regard to access to the working lines of the "politique de ville". In this way the National Observatory of the Sensitive Urban Areas (ZUS) of the General Secretariat for Cities contemplates five basic vulnerability indicators for each ZUS, which are: unemployment index; index of non-graduates aged 25 or under; foreigners index; single-parent families; and index of tax exempt households, as these do not reach the minimum income threshold for taxation.

The Observatory also includes a cartographic viewer through which it is possible to obtain thematic maps showing different variables, the different sensitive urban areas in the entire French state. The analysis categories offered are: population; income; activity rate; education; safety; local taxation; healthcare and habitat. In these maps, no synthetic indicators are offered, rather a radar type diagram of the indicators of each ZUS, which allows for the comparison of the values of each one of these with the average rate for the district, municipality, province and region <sup>2</sup>.

In the Netherlands, there is a tool named Standard of Living Barometer (Leefbaarometer), proposed not so much from the viewpoint of vulnerability or that of deprivation, but rather from the viewpoint of environmental quality. This tool includes a cartographic viewer which offers a cluster view of a radiograph of 49 indicators, grouped into 6 categories: housing; public spaces; infrastructures and services; population (social / economic aspects); social cohesion; and environmental quality (annoyances and safety concerns). The so-called "cluster" is the minimum statistical unit available in Holland and consists of the grouping of around 35-40 residencies, referring to level of 6 de unbundling of Dutch postal codes (6PPC). From this level onwards, through bundling, statistical data is also offered on the neighbourhood, district and city. The main innovative aspect of the Dutch example is that it offers a synthetic indicator for "Standards of Living" (Index Leefbaarheid), that can be inversely used to indicate urban vulnerability, thus allowing for the visualisation and analysis of the results on different scales and levels, along with their evolution with regard to different reference dates. This synthetic is constructed using a methodology, involving a complex mathematical device, though theoretically simple, which consists of assigning a scaled value to the Leefbaarheid Index as a combination of the 49 secondary indicators grouped into the 6 aforementioned categories.

1. Innovative Urban Actions.  
Source: <http://www.uia-initiative.eu/en/call-for-proposals>. Recovered, December 23th 2015.

2. De Santiago, E. (2012).  
*"Políticas públicas e instrumentos de diagnóstico para el mejoramiento barrial: Ejemplos de metodologías en Europa (Public policies and instruments for the diagnosis of neighbourhood improvement"*.  
II International Seminar on Informal Urban Processes.  
National University of Colombia.



In Belgium there is also a dynamic cartography tool to analyse what they refer to as “neighbourhoods in difficulties” (quartiers en difficulté). This is a tool that offers solely 5 complex indicators developed from the basis of statistical indicators: indexes for housing, qualifications, employment, healthcare indexes, and an overall synthetic index. The main innovative aspect herein is that it also offers a characterisation of vulnerability divided into typology: identifying the neighbourhoods in which there are types of similar issues (gentrification, immigration, etc.).

In the Spanish scenario, we have the Royal Legislative Decree 7/2015, passed on the 30th of October, through which the recast text of the Law on Urban Land and Rehabilitation has been passed, which in its first additional provision contemplates an urban information system at the service of public policies for a sustainable urban environment. The foregoing is comprised of three elements, the first corresponding to the current Residential Edification Atlas, and should be furnished with data from Evaluation Reports in relation to rehabilitation needs; the second would correspond to the Urban Vulnerability Observatory, gathering maps of dilapidated, obsolescent, impoverished or troubled neighbourhoods, or actions involving building rehabilitation; and, finally, the System of Urban Information, referred to as SIU, a public geographical information system and integrated with regard to land and urban development, through which citizens can obtain via electronic means all of urban development information pertaining to the different administrative bodies.

### 3. Urban Vulnerability Observatory.

Source: [http://www.fomento.es/MFOM/LANG\\_CASTELLANO/DIRECCIONES\\_GENERALES/ARQ\\_VIVIENDA/SUELO\\_Y\\_POLITICAS/OBSERVATORIO/](http://www.fomento.es/MFOM/LANG_CASTELLANO/DIRECCIONES_GENERALES/ARQ_VIVIENDA/SUELO_Y_POLITICAS/OBSERVATORIO/)

Recovered December 23rd, 2015

From the web page of the Ministry of Public Works we can access the Urban Vulnerability Observatory <sup>3</sup>, wherein we also find the Urban Vulnerability Atlas, the Residential Edification Atlas and the viewer for the Vulnerable Neighbourhoods Catalogue, as well as the Maps on Housing and the Romany Community in Spain, carried out in the year 2007.

### 4. Urban Vulnerability Atlas.

Source: [http://www.fomento.es/MFOM/LANG\\_CASTELLANO/DIRECCIONES\\_GENERALES/ARQ\\_VIVIENDA/SUELO\\_Y\\_POLITICAS/OBSERVATORIO/Atlas\\_Vulnerabilidad\\_Urbana/](http://www.fomento.es/MFOM/LANG_CASTELLANO/DIRECCIONES_GENERALES/ARQ_VIVIENDA/SUELO_Y_POLITICAS/OBSERVATORIO/Atlas_Vulnerabilidad_Urbana/)

Recovered December 23rd, 2015

The Urban Vulnerability Atlas <sup>4</sup>, developed with the Population and Housing Census carried out in 2001 (and which is presently being updated with the data from the latest Census in 2011) is a nationally based geographical information system based on data provided from census sections. This cartographic application allows for the carrying out of analyses using multiple variables on vulnerable urban areas at risk on the level of the census section, available for all Spanish municipalities. 21 urban vulnerability indicators are displayed, grouped into 4 large subject matters, sociodemographic vulnerability (5 indicators), socioeconomic vulnerability (6 indicators), residential vulnerability (5 indicators) and subjective vulnerability (5 indicators). Of these 21 indicators, considered as Basic Indicators of Urban Vulnerability (IBVU) are the 3 following ones: percentage of the population not in employment, percentage of the population without having completed school, and percentage of the population living in properties without running water or sanitary facilities.

## Diagnostic tools for integrated urban regeneration

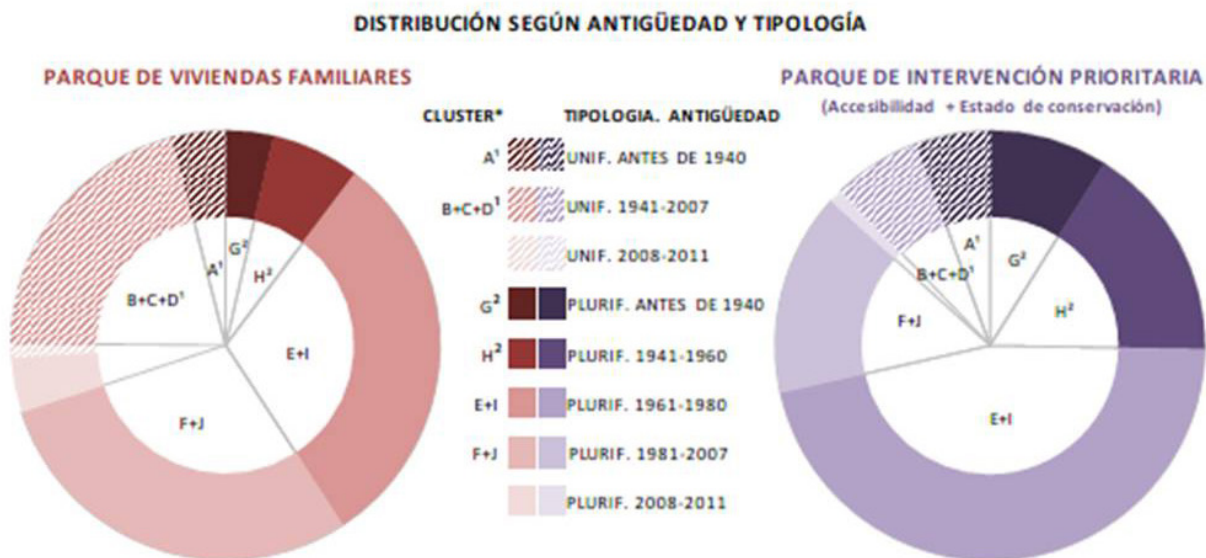
This working system also allows for the creation of maps for contextual analysis, comparing the aforesaid vulnerability indicators in each census section with the municipal, regional or national context the former finds itself in.

### 5. Residential Edification Atlas.

Source: [http://www.fomento.es/MFOM/LANG\\_CASTELLANO/\\_ESPECIALES/SIU/OBSERVATORIO/ATLS\\_EDIF\\_RESI/](http://www.fomento.es/MFOM/LANG_CASTELLANO/_ESPECIALES/SIU/OBSERVATORIO/ATLS_EDIF_RESI/) Recovered December 23rd, 2015

The Residential Edification Atlas <sup>5</sup> is a cartographic tool focuses on building indicators, in which we have all of the Census information pertaining to building tasks. Herein we can find, for example, the number of floors, availability of lifts, typology and preservation status, amongst others. With all of this data two reports have been drafted; one on a national level and another dealing with autonomous communities, in which the aforesaid data on edifications has been analysed, identifying the prioritised sphere of intervention, stating where accessibility issues are concentrated, or where sub-standard properties are located.

Graph 1: Residential Park and Immediate Intervention Area in the Valencian Autonomous Community.  
Source: Address: Eduardo de Santiago.









## 1.4. Geographical information system in place at the Valencia city council

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Ernesto Faubel  
Cubells.  
Head of the  
Computerised  
Cartography Section  
at the Valencia City  
Council

The geographical information system in place at the Valencia City Council, began its development from the Planning Service of the Department of Urban Development. In tandem a system of wealth and heritage management was developed. Both systems were merged in 2004, to form what is currently known as Municipal GIS. This geographical information system has more than 300 layers of different geographic information, regarding different services, with each service being responsible for its layers. Via the network, using a cartographic viewer, multiple content levels are offered, of which worthy of special note are services such as Mi@Barrio, which allows for the viewing of all of the installation of general interest as well as the public services in place in a queried district or area, or the traffic and road map services, both with high levels of user demand.

Valencia has developed a global city strategy with a timeframe towards 2020. The result of this strategy established a global pact geared towards innovation in which the main institutions in place in the city, the Public Sector Administration on different levels and other institutions and public bodies, participate. Within this global agreement for innovation, one of the fundamental issues was the strategy of Valencia as a smart city. The main working lines put forward in the Valencia Smart City strategy focused around the growth of an intelligent, sustainable and integrating city.

The aims of Valencia Smart City strategy are linked to the backing given by the Valencia City Council to offer more and higher quality services to its citizens and companies through a technological platform that integrates the information created by the city and allows for the decision-making process to be carried out with the entirety of this information.

With respect to the implantation process for this project, a series of steps were followed, firstly defining a strategy for: Smart City; as a result of this strategy, key services were identified, giving these priority for their management; subsequently, the issue of the contracting of a platform that gave a voice to all of these services was addressed, considering thus as a final stage, the start-up of measures to foster innovation at the service of entrepreneurs.

The development of the Valencia App has been one of the actions that was undertaken as part of the Valencia Smart City strategy. This is an application for mobile devices that allows for, via geo-referencing, the offering of useful data such as services or facilities that you might find close to you. More specifically, these could refer to the availability of bicycles from the bike rental scheme *Valenbisi* at any given station, available public parking spaces, access to traffic cameras or telling you when the next bus is due.



Image 7: Image of the Valencia 2020 Strategy.  
Source: Address: Ernesto Faubel

# Diagnostic tools for integrated urban regeneration

Furthermore, the electronic headquarters of the Valencia City Council has been incorporated to this application, meaning you can complete municipal tasks such as the obtaining of a census certificate, pay traffic fines or arrange advance appointments all from your smartphone.

To sum up, the Municipal GIS devised by the Valencia City Council is considered a flagship project on a national level, under the auspice of the IT service, services are progressively incorporated, including layers of information that practically cover all of the municipal services offered, acknowledging that this Municipal GIS has served as a basis for other projects. In this sense, the clear backing provided by the Valencia City Council must be fully valued in its commitments to the Valencia Smart City Project, as well as in its fostering of new trends in mobility, openness and transparency.

Image 8: Image of the implantation process of the Valencia Smart City Project.  
Source: Address: Ernesto Faubel



# Chapter 2

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The integration of quantitative and qualitative methodologies for diagnosing the city



Agustín Hernández  
Aja.  
Madrid Polytechnic  
University

## 2.1. New tools for recovering the consolidated city

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In this lecture I would like to present the research findings of a project funded by the 2013-2015 National RDI Plan and entitled “Strategy for the Design and Evaluation of Integrated Urban Regeneration Plans and Programmes. Action in Spanish Suburbs Through Comprehensive Refurbishment Areas and the URBAN Programme” (BIA2012-31905)<sup>1</sup>. The project was run at the Madrid School of Architecture's Department of City and Land Planning, with funding from the Spanish Ministry of Economic Affairs and Competitiveness through the 2008-2011 National RDI Plan. The project has yielded a tool for evaluating integrated urban rehabilitation plans and programmes, embodied in a set of technical recommendations on the drafting and evaluation of integrated urban rehabilitation documents. The ultimate goal is to bring back into the city all those areas that now have one or more of their various dimensions excluded or segregated, for whatever reason, from the city that contains them.

The research group worked with the Ministry of Development on a number of projects to analyse city planning in vulnerable quarters from the standpoint of the city planner, with the objective of operating on specific parts of the city to improve local living conditions. Improving living conditions was not the end goal, though; the focus went beyond, to operating on the urban environment, the city quarter. The researchers also participated in the analysis of urban rehabilitation in Spain in 2011, analysing 20 of the country's experiences with urban rehabilitation<sup>2</sup>. This work laid the foundations for sketching out the fundamental areas that action of this type must consider if it is to be successful.

The evaluation tool's conceptual keystone is the notion of “recovering the city”. The city is regarded as a comprehensive whole instead of areas classified by income or quality levels. Recovery in physical terms (through action on the space and existing buildings) is proposed, and so is recovery in social and political terms (through stronger citizen control over decision making). The idea is to satisfy needs in two dimensions, the social/spatial dimension and the political dimension.

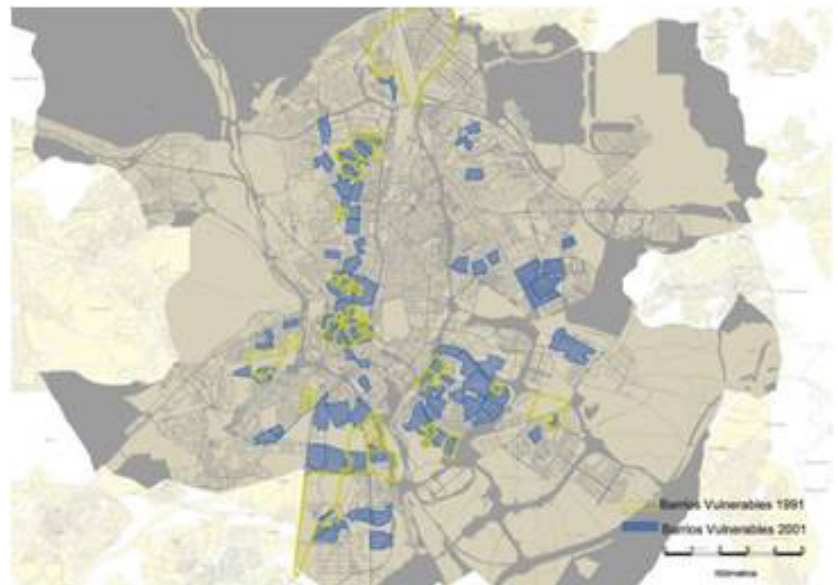


So, the strategy will make sense in a context in which citizens, government authorities and experts exert the political will to recover their “right to the city”, by considering issues such as housing, people’s relationship with their city, living conditions, environmental friendliness and good local development (taking account of citizens’ actual situation). This model of integrated urban rehabilitation focussed within the framework of building the right to the city will make this tool an effective way of gaining an overarching view.

Urban rehabilitation is important because it creates fair living conditions and a smooth, even space for all citizens, weaving worn-down and segregated spaces back into the city, thus enabling their inhabitants to become citizens again. The evaluation tool has a three-level structure that starts at the most general level (with overall concepts and strategies on which action can be based) and rises to the most specific level (dealing with particular points of how to address needs). The first of the three levels is the Areas level (meaning the most general framework for action). Areas are in turn divided into Categories (which represent the multidimensional level).

1. re-hab. REHABILITACIÓN  
Y REGENERACIÓN  
URBANA research  
project | Departamento de  
Urbanística y Ordenación  
del Territorio | Universidad  
Politécnica de Madrid.  
Source: [http://www2.  
aq.upm.es/Departamentos/  
Urbanismo/blogs/re-hab/](http://www2.aq.upm.es/Departamentos/Urbanismo/blogs/re-hab/)  
Accessed 26 December  
2015.

Image 9: Analysis of  
vulnerable quarters in 2010.  
Based on the census for  
1991 and 2001.  
Source: re-hab.  
Departamento de  
Urbanística y Ordenación  
del Territorio. Escuela  
Técnica Superior de  
Arquitectura de Madrid.  
Universidad Politécnica de  
Madrid. Lecture by Agustín  
Hernández Aja. re-hab  
project.



# Diagnostic tools for integrated urban regeneration

2. Hernández-Aja, A., García-Madruga, C., Rodríguez-Suárez, I., & Matesanz-Parellada, Á. (2014). Políticas estatales en áreas de rehabilitación integral, tipología urbana y vulnerabilidad social. *Arquitectura, Ciudad y Entorno*, 9 (26).  
Hernández Aja, A., Matesanz Parellada, Á., Rodríguez-Suárez, I., & García Madruga, C. (2015). Evolución de las políticas de rehabilitación en Áreas de Rehabilitación Integrada en España (1978-2012). *Informes de la Construcción*, 67 (Extra-1).

Image 10: Areas and categories of the re-hab integrated urban rehabilitation and regeneration strategy. Source: re-hab. Departamento de Urbanística y Ordenación del Territorio. Escuela Técnica Superior de Arquitectura de Madrid. Universidad Politécnica de Madrid. Lecture by Agustín Hernández Aja. re-hab project.

The third level is the Items level; Items are specific actions fine-tuned to solve a given problem. The tool is defined as a method of communication and discussion aimed at enabling simple, understandable communication amongst the various players involved in integrated urban rehabilitation (citizens, government authorities and experts). The tool has four defined dimensions: the urban- and land-related framework area, the urban design and local natural environment area, the building area and the socio-economic area.

The Urban and Land Framework area (designated by its Spanish initials as “MUT”) looks at various fundamental questions. The basic issue is to stop seeing urban rehabilitation as a policy that targets independent areas as entities separate from their surrounding urban, social, economic and environmental reality and ignores their interrelation with their environment and the city as a whole. Another question of prime importance is rules and regulations other than urban-planning legislation that also set conditions on urban rehabilitation; this area covers all those aspects that set conditions on refurbishment at the city-wide scale, including those aspects whose span is wider than the local scale of the city quarter.

[MUT] MARCO URBANO Y TERRITORIAL	MUT 1. INTEGRACIÓN DEL ÁREA URBANA MUT 2. EQUILIBRIO DEL MODELO URBANO MUT 3. VARIEDAD Y COMPLEJIDAD DEL ENTORNO URBANO MUT 4. PATRIMONIO E IDENTIDAD MUT 5. METABOLISMO URBANO
[DM] DISEÑO URBANO Y MEDIO AMBIENTE LOCAL	DM 1. ACCESIBILIDAD Y MOVILIDAD DM 2. BIENESTAR Y SALUD PÚBLICA DM 3. PAISAJE URBANO Y SEGURIDAD DM 4. SOPORTE DEL ESPACIO PÚBLICO DM 5. INFRAESTRUCTURAS Y SERVICIOS DM 6. COMPROMISO AMBIENTAL
[ED] EDIFICACIÓN	ED 1. ESQUEMA ARQUITECTÓNICO ED 2. SOPORTE FÍSICO ED 3. SEGURIDAD ED 4. HABITABILIDAD ED 5. SOSTENIBILIDAD
[SE] SOCIO-ECONÓMICO	SE 1. RED SOCIAL E INSTITUCIONAL SE 2. RED ECONÓMICA SE 3. ESTRUCTURA SOCIODEMOGRÁFICA SE 4. ESTRUCTURA RESIDENCIAL SE 5. GESTIÓN RELACIONAL Y PARTICIPACIÓN



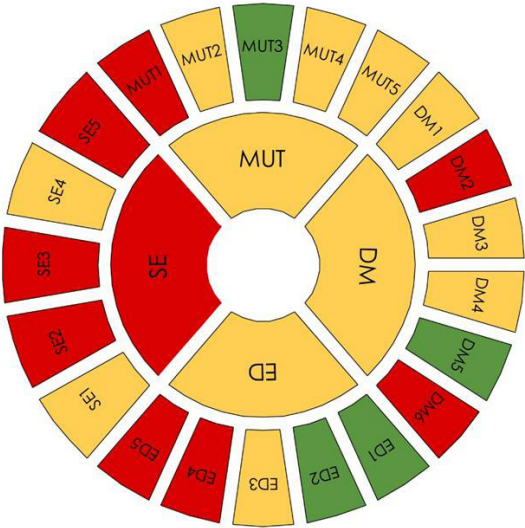
The Urban Design and Local Environment (or “DM”) area shares some fields with both the Urban and Land Planning Framework area and the Building area, so certain aspects are repeated in all three categories, with scale-related differences. The DM area deals with the basic elements of local conditions. It has two top-priority objectives: first, to improve the quality of life as a necessary condition for satisfying human needs in their physical, social and emotional dimensions, and second, to guarantee comfort in public spaces, which is regarded as a hallmark of environmental quality and optimum psychological/social conditions.

The Building (or “ED”) area takes a deeper look at the dimensions that have to do with the constructed environment. It is the most orthodox area, and it is where present-day rehabilitation work invests most of its efforts and resources. Therefore, there is a great deal of experience and awareness of the problem already, and it is highly regulated.

Graphic 2: Application of the strategy.  
Source: re-hab.  
Departamento de Urbanística y Ordenación del Territorio. Escuela Técnica Superior de Arquitectura de Madrid. Universidad Politécnica de Madrid. Lecture by Agustín Hernández Aja. re-hab project.

- Insuficiente
- Mejorable
- Satisfactoria
- No aplicable

IN ME SA		
[MUT] MARCO URBANO Y TERRITORIAL		
MUT 1.	INTEGRACIÓN EN EL ÁREA URBANA	
MUT 2.	ARTICULACIÓN A ESCALA MUNICIPAL	
MUT 3.	VARIEDAD Y COMPLEJIDAD	
MUT 4.	PATRIMONIO E IDENTIDAD	
MUT 5.	METABOLISMO URBANO	
[DM] DISEÑO URBANO Y MEDIO AMBIENTE LOCAL		
DM 1.	ACCESIBILIDAD Y MOVILIDAD	
DM 2.	BIENESTAR Y SALUD PÚBLICA	
DM 3.	PAISAJE URBANO Y SEGURIDAD	
DM 4.	SOPORTE DEL ESPACIO PÚBLICO	
DM 5.	INFRAESTRUCTURAS Y SERVICIOS	
DM 6.	COMPROMISO AMBIENTAL	
[ED] EDIFICACIÓN		
ED 1.	ESQUEMA ARQUITECTÓNICO	
ED 2.	SOPORTE FÍSICO	
ED 3.	SEGURIDAD	
ED 4.	HABITABILIDAD	
ED 5.	SOSTENIBILIDAD	
[SE] SOCIO-ECONÓMICO		
SE 1.	RED SOCIAL E INSTITUCIONAL	
SE 2.	RED ECONÓMICA	
SE 3.	ESTRUCTURA SOCIODEMOGRÁFICA	
SE 4.	ESTRUCTURA RESIDENCIAL	
SE 5.	GESTIÓN RELACIONAL Y PARTICIPACIÓN	



# Diagnostic tools for integrated urban regeneration

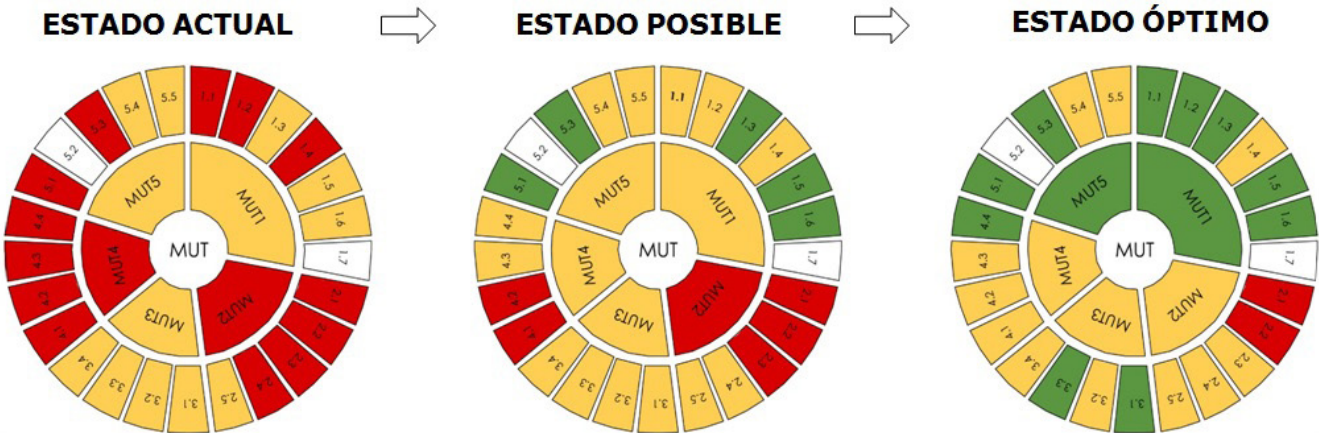
Lastly, there is the Socio-economic (or “SE”) area. This is regarded as a fundamental issue. In some operations, rehabilitation needs may be underestimated because there is a pool of seemingly sufficient housing and facilities in apparently good condition. Once the socio-economic factor is brought in, however, a new issue arises: assessing whether the hardware is both suited to the needs of local residents and affordable for local residents.

The items defined in the method were validated through surveys of people in various professions. All were specialists in the four areas established in the evaluation tool, although the majority were government rehabilitation experts with over 15 years’ career experience. Through a mathematical construct of the data obtained, it may be concluded that the categories presented in the tool are solid and consistent, in terms of both their assessment and their use.

Graphic 3: Current, possible and optimum status in the Urban and Land Framework area.  
Source: re-hab. Departamento de Urbanística y Ordenación del Territorio. Escuela Técnica Superior de Arquitectura de Madrid. Universidad Politécnica de Madrid. Lecture by Agustín Hernández Aja. re-hab project.

- Insuficiente
- Mejorable
- Satisfactoria
- No aplicable

[MUT] MARCO URBANO Y TERRITORIAL



Now for a synoptic analysis of the tool in the form of graphics. We have five graphics. The first is the general diagnosis. This shows all four areas and the categories of each. Next we have the four sector-specific graphics by areas, which contain the categories in each area and the items into which they branch. In each case we evaluate each item's satisfactoriness, indicating whether it is satisfactory (green), acceptable (yellow) or unsatisfactory (red).

There are different ways of finding satisfactoriness, depending on the type of item at issue. Category assessments and area assessments are found using the mean assessment of the items they contain, and they let us determine whether, beyond the satisfaction of a particular item, there are any categories or areas that are more or less developed in the project we are analysing. This graphic analysis lets us establish three levels, the current status, the possible status and the optimum status. With these different levels, sequences of actions can be planned, leading to different phases of work [with] the necessary investments.

In conclusion, we can say that, in the wake of this research project, we propose that there is a need for multidimensional operations based on finding four main areas, which are consistent and well related with professional practice. We also understand that in this process of participation the categories would be constant, but the items of action could be variable. So, the object of the work process is to start with an initial proposal and arrive at an ideal model, with the participation of all the social partners involved in the process of transforming the city.



## 2.2. Tools for energy diagnosis: Project ACCENT, ACcompanying Cities in their ENergy sStrategy

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Vera Valero  
Escribano.  
Valencian Institute of  
Building

ACCENT is an innovation project funded by Climate-KIC.

Climate-KIC is one of the three knowledge and innovation communities created in 2010 by the European Institute of Innovation and Technology (EIT), an organisation that depends directly on the EU whose main mission is to create sustainable growth. The Climate-KIC community is an association of businesses, academic institutions and public entities that fosters innovation in the realm of climate change. Its main objective is to transform knowledge and ideas into economically viable products or services that help mitigate climate change.

The project's main object is to run an on-line platform for constructing and evaluating energy-saving strategies in cities and for advising about energy-saving strategies in cities, focussing mainly on residential building and tertiary building.

The business consortium that has been put together to run this project is made up of:

- Engie (Gdf Suez), a French energy firm that is active internationally as an electricity and natural gas operator and an energy service provider.
- Esri Suiza, a world leader in the business of geographic information systems (GIS).
- Numtech, a French software development firm specialising in urban data gathering and modelling.
- ArxiT, a French firm that develops GIS-based applications and services.
- Sinergis, an Italian firm that develops GIS solutions for governments and public service companies.

- ASTER, a consortium for innovation and technology transfer created by the regional government of Emilia-Romagna, Italy, to foster competitiveness through research and innovation. It represents universities, research centres, industries, companies, start-ups, etcetera.
- IVE, the Valencian Building Institute, a private not-for-profit foundation of public interest that seeks to enhance the quality of life and sustainability in the construction process through research, development and innovation activities in the field of building, by combining the interests of all stakeholders, centralising and disseminating existing information about building and acting as a forum for all entities related with the building industry.
- EIVP, the School of Engineering of the City of Paris.
- Inndea, a foundation promoted by the Valencia City Council to support and incentivise development and innovation in all the city's strategic sectors.

### Main Characteristics of the ACCENT Tool

The object of the tool is to gather all statistical and other information about a city that can be shown through a georeferenced information system (GIS), such as population density, energy systems in buildings, year of building construction, building ownership and uses, power grid layouts, and the percentage of homes suffering energy poverty. To collect all this information, the tool draws on data already gathered by authorities including the city, the Cadastre and the Spanish National Institute of Statistics. The platform also makes use of tools developed under other European projects, such as TÁBULA and EPISCOPE, which arrived at a classification of buildings types and design features for estimating buildings' thermal performance. This information and these tools, plus a calculation engine specifically developed for this purpose, yield an estimate of buildings' energy performance and energy consumption at different scales (by building, quarter, district and city) and can break energy data down by use (heating, cooling, lighting, domestic hot water, etcetera).

This tool is being developed with the idea that its main user will be the city government, but it also tries to engage all the stakeholders who have a significant role to play in the city's energy action plan (business and citizens), to mobilise them and establish synergies with a view to achieving meaningful success. Accordingly, different interfaces for each user profile (government, business and citizens) will be developed.

## Diagnostic tools for integrated urban regeneration

### The Tool's Added Value

City: This tool's main added value for the city is that it enables the city to locate the zones where refurbishment is a priority. The platform detects the quarters whose buildings have low energy efficiency and the zones or areas of the city that have a high percentage of domestic energy poverty. Based on these data, local government authorities can then prioritise their investments according to real, objective data, for more-effective public action.



Image 11: Main objectives of the ACCENT platform.  
Source: Project ACCENT.  
Lecture by Vera Valero Escribano.

In addition, the platform allows users to build, evaluate and monitor the section of the city's energy action plan that deals with buildings, based on a catalogue of pre-established actions, in which the platform assesses the energy savings of the defined actions, CO2 emissions, investments costs and savings in energy bills. Local government authorities can select those actions or sets of actions that are the most efficient and make it possible for the city to meet its climate objectives.

Lastly, ACCENT enables the action plan to be shared and released to other sectors of the city, businesses and citizens, and to other cities with similar actions and objectives. The aim is to boost awareness and sensitivity to energy-related topics and benefit from sharing experience with other cities.

Businesses in the industry:

Companies that do most of their business inside a given city can benefit from access to a tool such as this, because with the tool they can locate the zones that are ripe for their business, so they can get the most out of their marketing effort. The tool shows companies where energy consumption trends in the available building stock are heading, and it enables companies to anticipate business opportunities, because it gives them information about the city's action plan.

Citizen services:

It is vital for citizens to participate, because the private residential stock has a vast potential for energy savings. In most cases, the action plan cannot succeed if you don't first make citizens aware. Service providers need to let citizens know what they do, find new distribution channels and get their services or products to market. It is therefore highly important for them to know exactly what barriers there are and what needs citizens will have in future.

Participative Development of the Tool

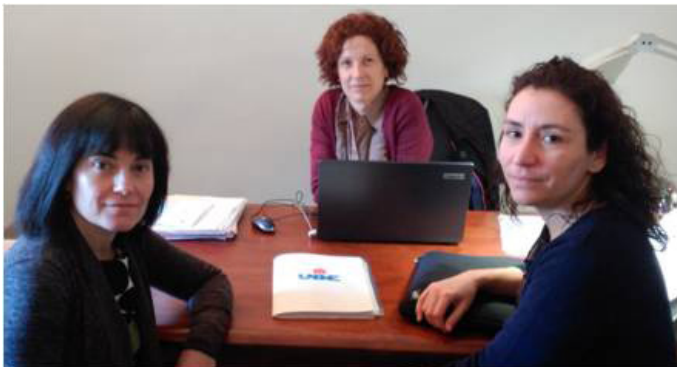
Phase One, 2014: The first phase of the project involved an evaluation of data availability, project scalability, the project's technical feasibility and a competition study. In addition, five workshops were held and over 110 interviews were conducted, with representatives of local authorities and business from France, Switzerland, Italy and Spain, to identify the needs of end users and thus design a bespoke product in response to a particular market demand.



## Diagnostic tools for integrated urban regeneration

Phase two, 2015-2016: We plan to spend these two years in closer participation with end users. For this purpose, the tool will be implemented and tested in four pilot cities, Paris, Valencia, Reggio Emilia and Ferrara. These pilot cities will be showcases, demonstrating how ACCENT services can be set up to suit each city's particular needs. The objective will be to refine the platform's functions and ergonomic features and test it with real city data. So, we plan to hold numerous meetings with each city to discuss specific topics concerning the platform, hold workshops to foster cooperation by citizens and businesses, conduct interviews to detect the demands of potential users, and so on. This is the pilot phase. Afterward, the necessary infrastructure will be created to launch the tool on the market. Close to 500 European cities with more than 100,000 inhabitants have already been identified as potential future clients of these services.

Images 12-13: Working meetings with cities and meetings with citizen representatives, Project ACCENT.  
Source: Project ACCENT.  
Lecture by Vera Valero Escribano.







## 2.3. From diagnosis to intervention: hands-on experience

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Bruno Sauer.  
Bipolaire Architects,  
GBCe, Universidad  
Europea

In the last ten years, the concept of urban regeneration as seen from city planners' point of view has undergone severe changes. I am going to start here by looking at the framework of theory that architects apply when we approach the issue of comprehensive urban renewal, and then I will take you through three practical cases from different standpoints.

When we talk about urban regeneration, we are talking about a transformation at the scale of entire quarters of the city, making changes to space and public infrastructure. In such transformation processes, we have to consider two basic aspects first. The first is a vision and political decisiveness. The second is a creation of society. These two preliminary concepts have to be present in comprehensive urban regeneration, although not necessarily in the same order. Sometimes an urban transformation stems from a vision and a political decisiveness that takes the initiative, and later it engages society in the process. However, there are also circumstances in which it is citizens themselves who take the initiative, calling for and making a commitment to urban transformation, and this grass-roots initiative eventually generates a political will. Whatever the sequence, both factors are indispensable in urban regeneration.

When we include the concept of comprehensiveness, talking about a comprehensive urban regeneration, the first thing we have to understand is that this is a complex issue in coexistence. There are lots of players involved in a given urban space, and each of them perceives the public space from his or her perspective. Secondly, we have to bear in mind that there is an issue of many physical layers, where stratus complexity is a factor. Thirdly, we've got to consider that it is scalable in time; this means experiences can be extrapolated to other places and other times. Lastly, within this comprehensive concept, we need to consider value that is progressive over time. This means that actions to transform the city cannot be left to depend on periods of political government. Therefore, actions to transform the city must be regarded as needs of society, regardless of the political winds that blow.

# Diagnostic tools for integrated urban regeneration

The first experience I want to present is EcoDistrict, an initiative under the European Union's Seventh Framework Programme, run through a big consortium of businesses and institutions from five different countries. Its objective is to unite research centres with hands-on experience in city-planning issues by means of the transformation of districts or quarters into more energy-efficient zones, plus other elements having to do with environmental impact. Freeware has been developed for this, thanks to which any expert user can start entering the basic data on the zone to be transformed over the next few years, establishing various scenarios and possible goals.



Image 14: Analysis of the Campanar quarter, based on the five defined realms of energy, life cycle analysis, green zones, thermal stress and social services.  
Source: Project EcoDistrict, lecture by Bruno Sauer.

Participation in this project consisted in a case study of the Mediterranean climate within urban regeneration in Europe. For the case study, the project chose Campanar, a quarter in the suburbs of Valencia whose experience can be extrapolated to many other zones. Five fundamental issues were worked with: energy, life cycle analysis, green zones, thermal stress and social services. First, workshops were run with residents of the quarter, to see what their topics of interest and concern were. The first conclusion was that energy was not high on residents' list of concerns. On the basis of a first SWOT analysis with residents, more entities were brought into the project so that eventually a software test could be run and testers could see what its inputs were.

The second case study was the city of Antwerp. In the late 70s, a vision formed in Antwerp that rose above political circumstances and allowed the city to transform itself, to create a city next to the river. The national railway company had this strip of land north of Antwerp that it was using as a train yard. When the yard fell into disuse, a debate arose about how to take the city to the river and how to handle this transition. The idea of developing the land was tabled, but the citizen voice rose up against this, asking for the land to be put under public ownership and made available to the city of Antwerp.



Image 15: Zone of the city of Antwerp that is no longer used by the railway.  
Source: Lecture by Bruno Sauer.

## Diagnostic tools for integrated urban regeneration

The first strategy was to knock down the walls around the railway yard. This brought residents closer to the space. People visited it, events were organised, and people actually recognised the value of the industrial heritage that was standing there. The end result of this experience was a major city-planning project in which two thirds of the area was turned into a big park with public services and the remaining third was set aside to recoup the investment. As part of this major project, the industrial heritage in the area underwent a facelift and was made available to citizens, placed at their service, and eventually an environment was created on the border of an attractive city for Antwerp citizens.

The El Cabanyal project will be the third of the hands-on urban renewals I will talk about. In this case, the starting point is what strategy to use to start the El Cabanyal renewal. So far three citizen participation workshops have been held, and a SWOT analysis has been run based on the workshops, defining 300 lines of action for the quarter, at different approach levels. Two hundred and fifty associations in the quarter have been contacted as well. This three months' work has sought to establish an ongoing dialogue about the quarter's needs. El Cabanyal is a quarter that in recent years has been beleaguered by the urban circumstances around it. This has led to the current situation we are facing, which is that the social fabric has crumbled.

Image 16: How the population becomes aware of the place when the walls around the railway yard are demolished.  
Source: Lecture by Bruno Sauer.



As the working method, there is a document that cross-references the operating programme for sustainable growth in Spain with the European mainstream policies, which are equality for men and women and non-discrimination, sustainable development, accessibility, demographic change and climate change mitigation and adaptation. So, there are 11 major lines of action. If we cross them with the 300 lines of action yielded by the SWOT analysis of residents' opinions, we see how some of these 11 major lines do not appear. Nevertheless, they have to be factored into the study, and citizens have to consider them necessary. That is why it is necessary to introduce knowledge about these abstract concepts to residents in a tangible, hands-on way.

In this case, the comprehensive urban regeneration of El Cabanyal has had the political will and vision behind it so the process of city creating can carry on afterward. This process cannot be limited to a strict time period, because the damaged social fabric has to be rewoven, knitting up the gaps in society. For this reason, a vision that rises above the changing situations of political circumstance will be necessary to achieve successful comprehensive urban regeneration in the El Cabanyal quarter.

Image 17: Transformation of a former railway yard into a well-equipped park where the industrial heritage underwent a facelift and was made available to the population.  
Source: Lecture by Bruno Sauer.







## 2.4. Analysis and evaluation for urban improvement from a gender perspective

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Adriana Ciocoletto.  
Col.lectiu Punt 6

The approach I am going to take in this lecture is to provide another point of view, a gender perspective. This perspective is the result of work done by Col.lectiu Punt 6, a team of three architects and two urban sociologists. This gender perspective is regarded as an additional layer of study incorporated into the analysis for the city's urban regeneration.

We are going to look at city planning from an intersecting perspective, analysing the diversity of people, from the standpoint of sustainability as a basic criterion for development, from the standpoint of a solidarity economy, placing priority on people's lives, and from the standpoint of participation, where people are experts with a voice. The work of Col.lectiu Punt 6 is based on a feminist critique of the theory of the foundation and construction of city planning in the 20th century as a science of specialists, architects and engineers. The 20th-century model contains no considerations of interdisciplinarity. It classifies individuals in a way that also entails classifying individuals' behaviour and thus embraces functionalism and the separation of uses, simplifying the social focus. The 20th-century city-planning model gave priority to encouraging the performance of capitalist society, aiming at a model of unlimited urban growth, and as a result city planners strayed farther and farther from reality.

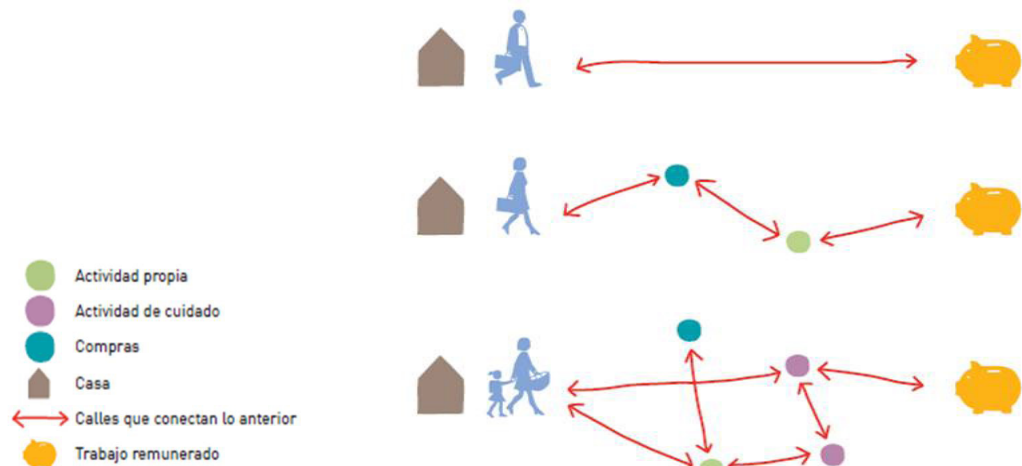
Feminism and the gender perspective's response to this bankrupt model turns the priorities of city planning around. Reproductive work and caregivers' work, which never entered the priorities of production in the 20th-century model, are valued. Priority also goes to day-to-day experience and personal diversity, and proximity is a valued urban quality. Under the gender perspective, we lean toward models in which the city is a compact, diverse thing, since that kind of model fits daily human life better. The idea is to consider the data that have been left out and take a more in-depth look at reality, bringing in qualitative analyses, shattering social hierarchies and working from an interdisciplinary stance.

Before we start talking about space and about people, we must ask ourselves what daily life is. Daily life is the activities we do in a given space and a given time, day after day. In classic approaches, the role of what is productive was associated with direct communication, from home to work and from work to home. This basic and highly questionable outline has now become more complex, incorporating care-related aspects of the more-feminine role, until it has become the most complex of outlines, which mirrors the everyday reality of how public space is used. The objective of this type of analysis is to make the tasks associated with everyday reality visible, identifying the spaces we need for each of the spheres of life, by which I mean the productive spaces, the reproductive spaces, one's own sphere and the political sphere of participation in the neighbourhood community.

Under this focus, we can identify one problem, which involves the difficulty of analysing and responding to people's different needs, especially those related with reproduction, which affects spatial design; the lack of a multidisciplinary, multiscalar, cross-cutting analysis in planning; and the need for tools of analysis and comprehensive urban evaluation, to evaluate daily reality by relating the physical, social and functional dimension, which turns this dynamic around.

1. Publications by Col.lectiu Punt 6.  
Source: <http://punt6.org/recursos/guias-propias/>  
Accessed 26 December 2015.

Image 17: Suggested outline for analysing people's daily reality from a gender perspective, where "daily reality" means the set of activities people do to satisfy their needs in the different spheres of life, which include productive work, reproductive work, one's own work and community or political work.  
Source: Lecture by Adriana Ciocoleto.





## Diagnostic tools for integrated urban regeneration

What we propose is an urban analysis method using qualitative techniques for an in-depth analysis of daily life, plus a system of urban spatial indicators from the gender perspective. The proposed method is explained in the book “Guia de reconeixement urbà amb perspectiva de gènere. Dones treballant 1” which calls for citizen participation in all phases of planning. The method proposes the following phases: empowerment, diagnosis of the daily environment, transformation proposals and evaluation.

To enact the last phase of the method, evaluation, we have proposed a tool we call the Audit of Urban Quality with Gender Perspective (Auditoría de Calidad Urbana con perspectiva de Género, or ACUG). ACUG is an urban evaluation tool that lets us check that the gender perspective has actually been mainstreamed into city planning, in both spaces and management, through comprehensive analysis of the social, physical and functional aspects of a specific environment. The tool has three stages. The first is participative diagnosis. The second is evaluation of the urban space; here, indicators are established for the quarter, the daily network, the space of interaction and the equipment for daily use. And the third stage considers the evaluation of urban management on the basis of the definition of urban management indicators.

Image 18: Phases of the Audit of Urban Quality with Gender Perspective (ACUG). Urban evaluation tool for checking that the gender perspective is mainstreamed into city planning, in both spaces and management, through the comprehensive analysis of the social, physical and functional aspects of a specific environment.

Source: Lecture by Adriana Ciocchetto.



To incorporate the gender perspective into work on existing urban indicators, we considered transferring existing indicators covering socio-economic conditions, work conditions and family conditions from the gender perspective to spatial indicators incorporating this same gender perspective. Drawing from this work, five urban qualities were defined: urban proximity (understood as proximity in space and in time), functional diversity, the need for autonomy linked to the perception of safety in the urban space, vitality related with life in the streets, and representativeness associated with the feeling of identifying with the quarter in which we live. Briefly put, we arrived at 13 indicators applied in three different spaces, in one's quarter and daily network, in the space of interaction and in equipment.

There are six case studies that are applying ACUG. They are getting some positive results in historical towns like Torelló and in urban environments, but also in residential estates and bedroom communities, like Urbanización Mas Planoi in Castellgalí.

Some of the conclusions gleaned from our work on indicators show us how to incorporate the gender perspective into urban planning and regeneration. In this sense, we feel that, as a cross-cutting tool in urban planning, the gender perspective is in the incipient state of application, that there are public policies that are considering the gender perspective, although there is a recognised need for expert team training to incorporate gender perspective focuses. And that some of the urban qualities that favour daily life are seen positively, although as a general tendency we can assert that the spatial needs of daily life are not being taken into account in land planning.

With the audit in hand, we can conclude that, while there are shared aspects, each case is unique in its physical, social and functional context, and therefore the gender perspective has to be applied in space design and management. There are no "one size fits all" solutions, because you need a comprehensive analysis of the context to get started.

# Chapter 3

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Technical session conclusions



### 3.1. Urban renewal as seen by government

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Cuesta.  
Director for Housing,  
Refurbishment and  
Urban Regeneration,  
Valencian Regional  
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Citizens want to live the best life they can, and obviously in the best city they can. This fact is especially important if we cast our mind back to our old way of thinking, in which we looked at cities in terms of what way they had to grow, what they had to grow up into.

The urban renewal topics we have been discussing for the last few days have to do with the other way of looking at existing cities, in the understanding that the only way to see a city is as what it is. That's the city we've got to work with. In this sense, urban renewal and regeneration issues are fundamental, and for that reason we've got to have tools, like indicators and information systems, but we've also got to incorporate different perspectives so we can respond to different people's different feelings. Citizen participation enables citizens to feel involved in urban renewals. Urban renewals are especially complex processes, because they do things to an already consolidated city, so they need consensus and the involvement of the affected residents if they are to be successful.

The new management of the Valencian Cartographic Institute is interested in supplementing existing maps with not only visual information, but smart information. By that I mean information on statistical data or building data. In this sense, work is being done to incorporate building assessment reports into the Valencian Cartographic Institute's geographical information systems. Having this kind of socio-economic data available will facilitate matters when we entertain the idea of new urban projects, because it will make it possible for us to compare different projects on the basis of their results.

In urban renewal issues, it is fundamental to take a comprehensive view of the problems of the consolidated city. To do this, we must rely on the support of qualitative and quantitative analyses that furnish us with physical, environmental, economic and social information about the city. This knowledge of the existing city will enable us to set up projects to take more precisely targeted action, thus guaranteeing for the future that we get the most out of the resources we have.



### 3.2. The challenges of urban renewal in the consolidated city

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Begoña Serrano  
Lanzarote.  
CEO Valencian  
Institute of Building

One of the big subjects the Valencian Institute of Building works with is urban regeneration and building refurbishment. The institute participates in a range of European, national and regional research projects along these lines.

We feel that research and innovation should have a clear end goal, which is to transfer any knowledge that is gained to society, in a way that improves citizens' quality of life. It is also important for the results of this work to be made known in all spheres, among industry professionals and throughout society at large, because information like this is fundamental for making us aware of the problems and vulnerabilities our cities have right now and the need to work out strategies aimed at the comprehensive regeneration of cities.

This is the backdrop against which the Valencian Department of Housing, Public Works and Land Structure and the Valencian Building Institute organised this technical session, *THINKING THE CITY. Diagnostic tools for integrated urban regeneration*, in which the results of Project ACCENT were presented. ACCENT is a project funded by the European platform Climate-KIC to design a diagnostic platform using a variety of types of georeferenced data to help city governments define their energy rehabilitation strategy.

In all the lectures, we have heard about the complexity and diversity of urban reality, which makes it impossible to explain urban reality from a linear perspective in which events follow one another systematically in an established order. No, urban reality is a network in which social, environmental, economic and cultural phenomena mingle, and they all have to be considered if we are going to come up with urban regeneration strategies that are holistic, as proposed by the Toledo Declaration, to guarantee long-term efficacy.

Because of this urban complexity, our analytical tools have to be powerful, with the capacity to run diagnostics using multiple focuses and approaches. The importance of geographic information systems in this sense has become clear. Geographic information systems have great potential for analysis, with their ability to manage vast georeferenced databases.

Obviously, for these instruments to be really efficient, the information they handle has to be good. We know there is a large number of databases managed by organisations like the Valencian Cartographic Institute, with many different free-access applications that let you consult and map information in real time. Nevertheless, a question has been raised about the need to generate databases in GIS format with information about the characteristics of the constructed housing stock, so we can come up with refurbishment policies that are realistic and speak to the real needs of buildings and their users.

In this sense, it would be a great opportunity if all the information from the Directorate-General of Housing, Refurbishment and Urban Regeneration's Registry of Building Assessment Reports in a GIS format could be downloaded. In fact, the people in charge said they are already running tests so that sometime next year this idea can be put into practice and users can consult all the aspects building assessment reports cover in regard to buildings' construction features, morphological features, state of upkeep, analysis of accessibility of communal elements and energy efficiency assessments.

The concept of *spatial* inequality in the city has been introduced. We have also talked about the need to understand the urban experience both qualitatively and quantitatively, considering not only objective aspects based especially on georeferenced data, but also subjective aspects that consider the way citizens perceive urban space. On this topic, there has been some insistence that our analysis of space and our way of thinking about the city need to be complementary and multidimensional.

Another analytical tool that was presented was systems of indicators that evaluate socio-economic aspects, environmental aspects, mobility aspects and other aspects through the scored assessment of diverse parameters, which are then combined to generate synthetic indicators that offer information concentrated in a single figure. Various indicator methodologies were presented, with different focuses, including the gender perspective, as a point of view for the development of a more-inclusive kind of urban planning.

Lastly, let me just say that nearly all the lectures in THINKING THE CITY talked of the need to take integrated focuses that consider the fundamental role of citizen participation as a generator of ideas and the role of new technologies as fundamental tools for dealing with smart urban regeneration processes.

# Appendix I

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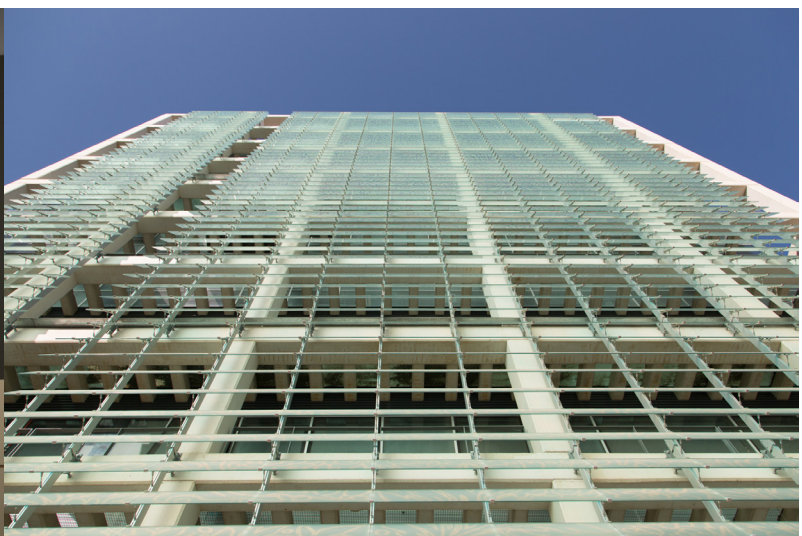
Photographs













# Appendix II

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ACCENT project: partners & collaborators



\_PARTNERS

ACCENT project







\_Collaborators

ACCENT project





In partnership with

