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Title:
Customer Summary
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WP2
References:
<p>[1] Grant Agreement No. 296282, Annex I Description of Work</p> <p>[2] Consortium Agreement</p> <p>[3] EC review report on the first project review, Luxembourg, June 6, 2013</p> <p>[4] D3.1 Requirements Analysis and System Specification</p> <p>[5] D3.2.1 Requirements Management and Development Infrastructure – part 1</p> <p>[6] D6.1 System Integration Plan</p> <p>[7] D2.4.1 Business Model Final Version</p> <p>[8] D2.1.1 CRM Methodology and System</p>

Short Description:
<p>This report describes the project experience related to the customers of the plan4business platform (CRM System). Based on the information collected during the project process and the feedback from several workshops, stakeholder board sessions and conferences, the report is summarizing the important aspects for platform customers.</p>
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1 Introduction

Plan4business

Today, urban and regional planning datasets are not aggregated and not easy to use for business issues: planning data users are confronted to fragmented data sets, unable to create comparative analysis, monitoring and analysing urban statistics, or developing urban inquiries and projects. Researchers, spatial planners and professionals from the real estate world as well as other disciplines, such as insurance industry, investors, or market-relevant activities related to urban development have a growing stake in such capabilities.

Consequently, The plan4business development team has designed and implemented the first prototype of the plan4business service platform.

There will be two main implementations of the system. One is for non-expert users enabling browsing the content, viewing the thematic compositions and predefined analysis and core pan-European datasets such as Urban Atlas and Corine Land Cover. The other implementation is targeted at experts users who are additionally able to create own map compositions, perform own analysis, integrate spatial data into the common data model based on INSPIRE, download certain datasets or use the developed Application Programming Interface (API).

Aim of the report

This document describes the customers gained during the whole project period. It also reports on the achievements of the technical infrastructure of the project (CRM approach). As such, this report completes the results of Task 2.1 of the plan4business Description of Work (DoW):

Task 2.1 – Customer Outreach management (Month 1 to 24, ISOCARP): This task includes the definition of a CRM/COM methodology, the provision and maintenance of a CRM system, the building of potential customer lists and especially the communication with customers and potential customers. Work will be focused according to the target groups specified in Task 2.4, in conjunction with Task 1.4 Dissemination and Events.

The customer relationship and outreach activities are within the responsibility of WP2, while the related activities of requirements gathering, system specification, implementation and validation fall into the responsibility of WP3, WP4, WP5 and WP6 respectively. This report is strongly related to the past deliverables D3.1 Requirements Analysis and System Specification, D3.2.1 Requirements Management and Development Infrastructure – part 1, D6.1 System Integration Plan, D2.4.1 Business Model Final Version and D2.1.1 CRM Methodology and System.

With the aim to create a web platform offering urban and regional planning datasets and services, analyses of management requirements as well as user identification and data requirements were performed, based on the contents of D3.1. Besides D3.1, this report considers also the system implementation and the future business model described in the deliverables D6.1 System Integration Plan and D2.4.1 Business Model Final Version.

Structure of the report

Chapter 1 introduces the project and describes the aim of this report.

Chapter 2 describes the CRM methodology and the CRM technical infrastructure.

Chapter 3 gives details on the CRM achievements, gathering contacts, User groups development in the CRM, the dissemination results, awareness raising results and follow-ups.

Chapter 4 describes the content results of project activities (workshops, conferences, meetings), the Requirements Gathering and Community Feedback, the Customer Questionnaire and the Workshops as well as Stakeholder Board Meetings.

Chapter 5 finalizes the Customer Summary, giving the main contents and lessons learned.

Chapter 6 summarizes and concludes the findings of this report.

2 CRM Methodology

The development of a Customer Relationship Management (CRM) has been an important point for the development of the plan4business project: a CRM methodology entails all aspects of interaction that a project has with its customer, whether it is sales or services-related.

In general, the aim of a CRM is to:

- Better understand the customers
- Retain customers through better customer experience
- Attract new customers in order to win new contracts
- Increase profitability
- Optimize customer management costs

The three phases in which CRM supports the relationship between the project and its stakeholders and customers are:

- **Acquisition:** CRM helps acquire new customers (users and stakeholders) through contact management.
- **Enhancing:** Web-enabled CRM and the contact history help to enhance the relationship to each specific user or user group.
- **Retaining:** CRM software and database enable the project to identify and reward its loyal customers and stakeholders and to further develop appropriate dissemination initiatives and to monitor and plan targeted measures to retain the relationship.

In all project activities, a special emphasis is laid on **user involvement**. The dialogue with specific target audiences is a crucial factor for the project's development, as not only the promotion of plan4business results contributed to the project's visibility, but also the feedback on technical and functional requirements, which was significant and necessary.

While developing the user involvement and customer relationship management methodology, it was important to keep in mind the plan4business main goals and principles. The core philosophy of the project is that success comes from acceptance, use and continuous improvement of the results and projects' work. This can only be reached through intensive involvement of users by information exchange, motivation and provision of functional solutions.

CRM technical infrastructure

The use of the CRM system confers several advantages to the project:

- Quality and efficiency
- Decreased costs
- Decision support
- Enterprise/project agility

The system is much more efficient than fragmented data records, because it saves time by tracking communications and transactions with a particular client in a uniform, centralized and online accessible way.

The main questions behind the customer relationship management are:

- Who are our users? What are their characteristics? What are their needs and requirements?

- How can we bring together the demand of the users to the market offer and conditions?
- How can we develop from the available data a sustainable business model, attractive for a large range of business activities?
- How can we develop an open platform collecting the datasets and offering a complete and easy-to-use platform, accessible to every type of business?

In order to coordinate the multitude of user involvement measures and to follow up on contacts in a coherent way, the consortium developed the common **Customer Relationship Management methodology**. It considers the key user groups described in the deliverable D3.1 and facilitates the monitoring of the activities to reach these users and contact follow-ups.

Thus, the plan4business CRM serves the consortium partners for two main purposes – requirements management and dissemination and awareness raising:

- Requirements management:
CRM encompasses a business strategy, process, culture and technology that enable plan4business to optimize revenue and increasing value through a more complete understanding and fulfilment of customer needs. CRM helps to provide services and a platform that the customers require.
- Dissemination, awareness raising and contact follow-up:
The consortium identified multi-channel and multi-directional communication as the basis of the successful relationship to the project stakeholders. The project focussed on a two-way communication model that engages its customers in an on-going dialogue, creating a learning relationship. Every contact with the customer, whether it is by email, phone, web, or face-to-face, represents an opportunity to learn more about his unique preferences, values and expectations. It is also an opportunity for the customers to gain valuable insights into project's activities and to obtain information about its products and services.

The CRM System was integrated into the Redmine Issue Tracking System on the plan4business intranet. Each customer is registered and listed, including their preferences, values and expectations. The project partners can access and update the displayed information.

Due to positive experience of the plan4business partners in other research and development projects, we choose Redmine¹ supplemented by the Redmine CRM Plugin² as a comprehensive system for managing contacts along with the requirements and other related information.

Redmine is an open source issue tracking system that comes with all required features for creating, managing, maintaining and categorizing issues such as software requirements and for assigning them to people, prioritizing them and setting deadlines for their implementation. The Redmine CRM Plugin extends Redmine with the ability to store customer contact data, to keep track of communication with the customer, to organize contacts by a customizable tagging system and to relate single customers to specific issues (i.e. software requirements). With the support of the plan4business Project Office, Fraunhofer IGD has set up an installation of the Redmine system at the beginning of the project. Redmine accounts have been created for all project partners of plan4business.

¹ <http://www.redmine.org/>

² <http://www.redminecrm.com/>

In the following, we provide a detailed description on the functionalities that have been implemented for the specific needs of the plan4business customer relationship management in Redmine. The same system is used for the requirements management in the project, however, details on the functionalities for requirements management are provided in D3.2.1 Requirements management and development infrastructure.

The plan4business CRM system helps to identify and to target existing and potential users, stakeholders and generate leads for the user involvement team and local project representatives/partners. A key user involvement capability is tracking and measuring multichannel campaigns, including dissemination materials, presence at events, contact history and other aspects.

Following options have been considered for the plan4business CRM:

- **Licensing:** Open source solutions are available, but limited in terms of functionality or licensing (“Community Editions” of commercial products or prototypical software)
- **Data management:** Majority of SaaS solutions mean giving personal, sensitive data to a service provider
- **Costs:** Systems are available at any cost point; from free to 5K€/Month; We looked for a solution with a low one-time license fee;
- **Functionality:** Many CRM systems focus on mass mailings, automated email contact tracing and other communication functions, we mostly need a documentation and analysis tool

Based on these four aspects, the initial requirements on the system were:

- Easy use, e.g. as a tool for organisation of workshops
- Integration in the plan4business intranet
- Contact management including organisational and person-related data
- Links to events, documents and requirements
- Contact history
- Possibility to add comments and notes
- Search functions (such as key words, events, involvement, project partner in charge)
- Simple analysis functions

3 CRM achievements

After 2 years of project life, the achievements of the CRM technical infrastructure can be evaluated. This can be done by evaluating the following points:

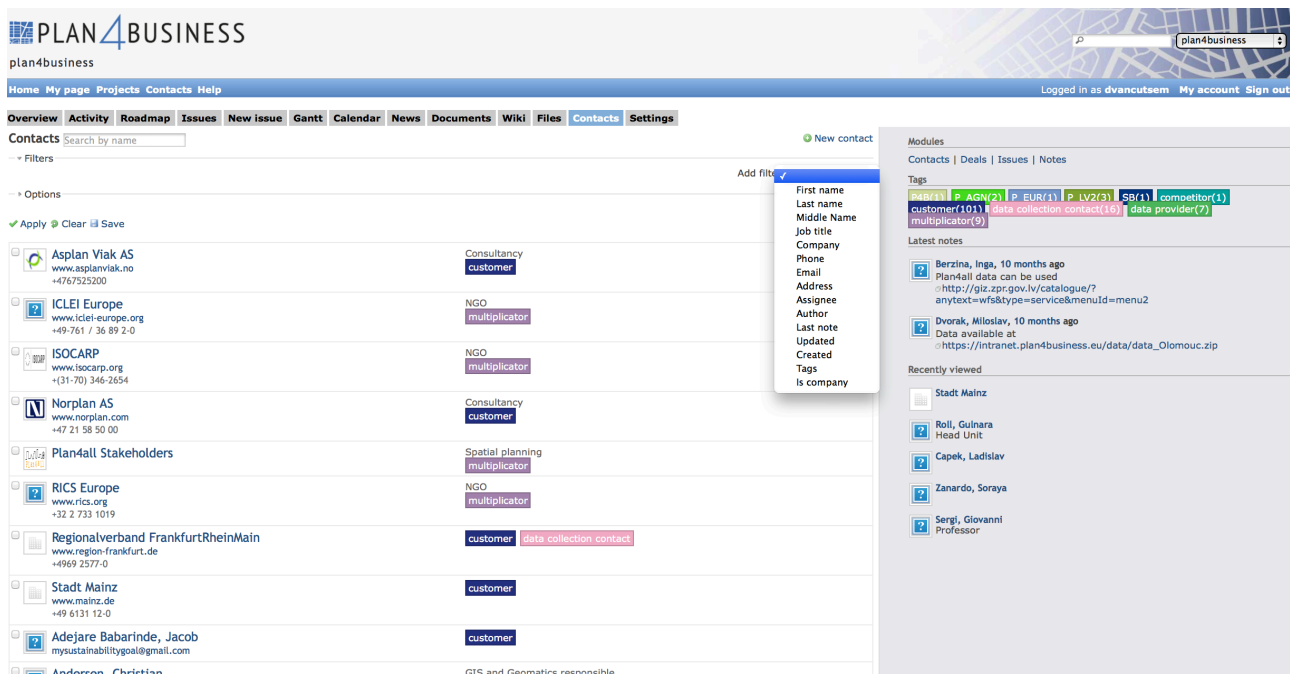
- Contacts gathered
- User Groups development in the CRM
- Dissemination results, awareness raising results and follow-ups
- Results of CRM as management and monitoring tool
- Content results of project activities (workshops, conferences, meetings)

Gathering contacts

The gathering of user contacts from project beginning until now was implemented by different methods:

- questionnaires,
- contacts to users and stakeholders during events, seminars, workshops
- contacts from other projects, especially Plan4all, etc.

All contacts have been classified and registered in the plan4business CRM according to the previously developed procedure. The contact list contained at the end of the project several categories with corresponding contacts.



The screenshot displays the PLAN4BUSINESS CRM interface. The main header includes the logo and navigation links: Home, My page, Projects, Contacts, Help. A user is logged in as 'dvancutsem'. The 'Contacts' section is active, showing a list of contacts with columns for name, address, phone, email, and role. A dropdown menu is open for 'Add filter', listing fields like First name, Last name, Middle name, Job title, Company, Phone, Email, Address, Assignee, Author, Last note, Updated, Created, Tags, and Is company. The sidebar on the right shows 'Modules' (Contacts, Deals, Issues, Notes) and 'Tags' (Plan4all, AGN, EUR, LV2, SB, comoetitor, customer, data collection contact, data provider, multiplier). It also lists 'Latest notes' and 'Recently viewed' items.

Name	Address	Phone	Email	Role
Asplan Viak AS	www.asplanviak.no	+4767525200		Consultancy customer
ICLEI Europe	www.iclei-europe.org	+49-761 / 36 89 2-0		NGO multiplier
ISOCARP	www.isocarp.org	+31-70) 346-2654		NGO multiplier
Norplan AS	www.norplan.com	+47 21 58 50 00		Consultancy customer
Plan4all Stakeholders				Spatial planning multiplier
RICS Europe	www.rics.org	+32 2 733 1019		NGO multiplier
Regionalverband FrankfurtRheinMain	www.region-frankfurt.de	+4969 2577-0		customer data collection contact
Stadt Mainz	www.mainz.de	+49 6131 12-0		customer
Adejare Babarinde, Jacob	mysustainabilitygoal@gmail.com			customer
Andersen, Christian				GIS and Geomatics responsible

Figure 1: CRM System with contact recording

Identified Category (Tag)	Name	Number of direct contacts	Number of distribution list
Competitor	Several	12	12
Data User / Customer	Several	104	101
Data provider / Data Collection	Several	22	22
Multiplicator	Plan4all (different users)	1	400
	ISOCARP (individuals)	1	1.000
	ICLEI (cities)	1	1.200
	R.I.C.S. (individuals)	1	114.000
	EUROGI (organizations)	1	24
	EUROGEOGRAPHICS (national institutions)	1	45
	NORWAY DIGITAL (press)	1	1
	EEA (different users)	1	10.000
Total Contacts		146	126.805

Figure 2: overview of contacts in the CRM

User Groups development in the CRM

The User Groups categories were defined in the D3.1, describing strategic questions on target users and stakeholders, their interests and needs.

The first classification could be further developed into a more appropriated one, where the following User Groups were listed:

- Competitor
- Data User / Customer
- Data provider / Data Collection
- Multipliers

Competitor refers to platform competitors developing similar services and data providing as the plan4business platform. The competitor's classification was developed in D3.3 and D3.4.

Data User and Customer refers to consultancies, investors, planners, engineers, etc. They use and re-use datasets by using also services.

Data provider and data collection refers to an organisation which produces data or metadata.

Multipliers refers to the stakeholder able to disseminate the information and services offered by the platform. These contacts are crucial for the platform as they are the levers of the plan4business platform.

#	Is company	First Name	Middle Name	Last Name	Job title	Company	Phone	Email	Address	Skype	Website	Birth day	Tags	Background
2	1	Asplan Viak AS			Consultancy						www.asplanviak.no		Customer	One of the larger consultancy companies in Norway with roughly 700 employees within spatial planning, infrastructure, utilities, GIS, architecture and landscape architecture. Owner of Asplan Viak Internet AS, partner of the PLAN4BUSINESS project. Part-owner of Norplan AS.
3	1	Norplan AS			Consultancy						www.norplan.com		Customer	Norplan is a world-leading engineering and development consultancy. We are a Norwegian-based company with a worldwide network. Our highly experienced professionals specialise in techno-economic and management consultancy services. Our wide range of consulting services has earned us an international reputation for quality and excellence. We have to date carried out over 1000 separate assignments in more than 100 countries. We offer expertise in three key areas: • Renewable Energy and Environment • Industry, Oil and Gas • Urban Planning and Development
5	0	Artur		Kapiński	Director	Centralny Ośrodek Dokumentacji Geodezji i Kartograficznej					http://www.codgik.gov.pl		Customer	Director of Documentation Centre of Geodesy and Cartography, responsible for countrywide mapping archives. Organization supervised by Head Office of Geodesy and Cartography (http://www.gugik.gov.pl/).
6	0	Marek		Lapiński	Manager	Biuro Architektury i Planowania Przestrzennego m.st. Warszawy					http://bip.warszawa.pl/Men_u_podmiotowe/Urzed/Biura_Urzedu/AM/default.htm		Customer	Manager in the Office of Architecture and Spatial Planning of the capital city of Warsaw. Office is responsible for spatial development of Warsaw, conducts a comprehensive registers including zoning plans and decision of redevelopment conditions.
7	0	Tomasz		Mysiński	Director	Biuro Geodezji i Katastru m. st. Warszawy					http://bip.warszawa.pl/Men_u_podmiotowe/Urzed/Biura_Urzedu/BG/default.htm		Customer	Director of the Office of Geodesy and Cadaster of the capital city of Warsaw.
8	0	Marcin		Bajko	Director	Biuro Gospodarki Nieruchomościami m.st. Warszawy					http://bip.warszawa.pl/Men_u_podmiotowe/Urzed/Biura_Urzedu/GK/default.htm		Customer	Director of the Office of Real-estate of the capital city of Warsaw. Conducts register of real-estate transactional prices in Warsaw.
9	0	Dominik		Kopczewski	Coordinator	Główny Urząd Geodezji i Kartografii					http://www.gugik.gov.pl/		Customer	Coordinator at Bureau of International Cooperation of Head Office of Geodesy and Cartography.
10	0	Agata		Gózdziak	GIS Developer	DG Mobility and Transport (MOVE)					http://ec.europa.eu/transport/index_en.htm		Customer	Involved in Ten-T portal development. TENtec is the information system of the European Commission to coordinate and support the TEN-T Policy. It stores and manages technical and financial data for the analysis, management and political decision making of the TEN-T programme.
11	0	Peter		Shand		Royal Town Planning Institute							Customer	
12	0	Nigel		Mehdi		Mehdi Ward Consultants Investment Property Databank							Customer	
13	0	Colm		Lauder									Customer	
14	0	Anna		Rose		Space Syntax Ltd							Customer	

Figure 3: Extract of the Database with contact details as example

Dissemination results, awareness raising results and follow-ups

The CRM system assisted the project partners in disseminating the project information to the customers.

It helped to disseminate:

- Regular information, e.g. project newsletters, RSS, press releases;
- Organization and invitation to workshops and events, including involvements;
- Information on the website and social networks (e.g. Facebook, LinkedIn...);
- Distribution of PR materials, such as flyers and project brochure;
- Collaboration on joint related projects.

The project partners updated the CRM system with new contacts, organizations and contact details to the existing system.

Also information on project development was used in the system: the embedded wiki was used as a coordination tool.

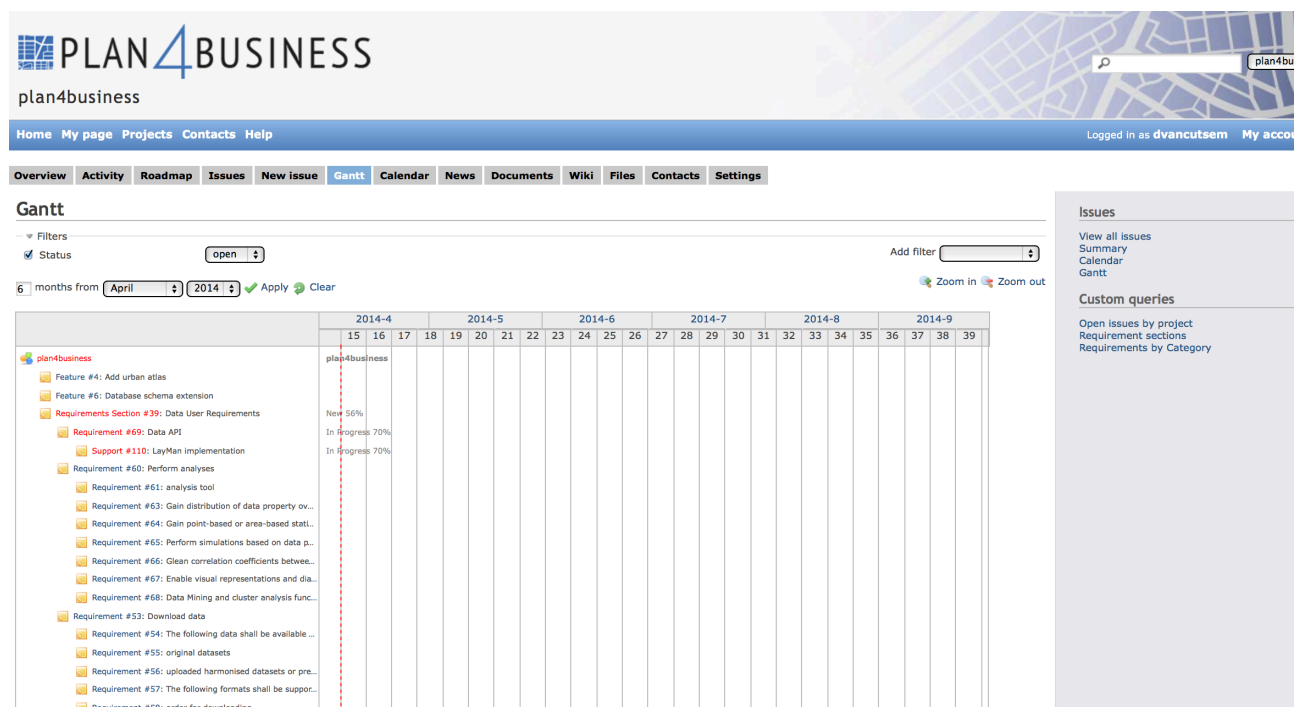


Figure 4: Wiki in the CRM system

Results of CRM as management and monitoring tool

The CRM system was built as a stable system for the plan4business project. It was, is and will be regularly updated and used as a reference for the project partners in the deployment of the platform.

It brings together more than 140 direct contact addresses and more than 126.000 distribution addresses, thanks to the project multipliers.

4 Content results of project activities (workshops, conferences, meetings)

A second important input for the Customer Summary were the questionnaires, workshops, conferences and Stakeholder Board meetings organized during project's life.

Requirements Gathering and Community Feedback

The gathering of user requirements at the beginning of the project was implemented by using several methods, as described in detail in the deliverable D3.1:

- Customer questionnaire,
- Feedback from users during workshops and events,
- Referring to user requirements identified during the Plan4all project (see www.plan4all.eu).

User and data requirements have been gathered and contextualized for a number of use cases (see D3.1, Chapter 7). These identified use cases were based on the results of the questionnaires sent to several professionals, users working with planning datasets and active in the fields of urban and regional planning. The questionnaires focussed on the user needs and their perceived requirements, in terms of functionalities and future plan4business platform services. In addition, the plan4business Stakeholder Board supported the project team with their expertise. The Stakeholder Board was established in close cooperation with ISOCARP. The first Stakeholder Board meeting took place at the CORP Conference in Vienna in May 2012 and the second meeting followed on October 2, 2012 in Plzen. A third one followed in Warsaw in March 2013. Further different Stakeholder Board members were involved in the User workshops.

Additionally to questionnaires, a number of strategic information has been gathered in operational project meetings and workshops. This provided us with an overview of the user feedback regarding the plan4business platform. The results of the questionnaires, meetings and workshops cannot be considered as fully representative of the market demand state of the art, but they are deeply anchored to practice and to the daily working experience of involved practitioners and researchers.

Essential findings demonstrated that main concerns – for both, public and private actors – regarding the use of planning data are related to:

- Land use
- Technical infrastructure
- Statistics, environmental impact assessment studies,
- Transport,
- Risk management
- Environment protection zoning
- Housing stock.

Customer Questionnaire

A second customer questionnaire was developed and distributed during 2 workshops and event sessions. The London meeting on 8th March 2013 had a feedback from 5 questionnaires, while the Florence workshop during the INSPIRE Conference on the 24th June 2013 had a feedback of 8 questionnaires.

The answers varied a lot depending on the persons' background and interests. Some of the answers were provided on a general level. We can identify a low number of questionnaires; however, they provide some ideas, directions and recommendations we should consider and take into account.

Hereafter the **questions and the synthetized answers**:

1. Plan4business focuses on integration of spatial planning data. What data do you consider as important for planning activities that should be included in the plan4business database?

European CLC, Urban Atlas, ...	8
Reference OSM, orthoimagery	9
Spatial / zoning / urban plans	12
Statistical	11
Cadastral	7
Topographic	5
Protected areas	8
Natural hazards	12

Other Data:

- cost benefit assessment > ranking, alternatives in terms potential locations for different land use
- transport values, land values, retail rents, etc.
- cadastral and topographic data are too detailed / difficult to be implemented at the first stage
- environmental data, demographic data
- underground utilities, Building Information Modelling models
- 3D, City GML

2. What kind of queries do you expect/need to be performed by, and information to be retrieved from, the plan4business platform?

- supporting land use planning with effective economic growth
- geolocating underground utilities
- Energy - performance analysis of buildings
- local economic performance stats (macro/micro)

- flood risk, air quality, rainfall, sunshine hours
- planning history & zoning
- up to date plans, committed development proposals
- overview of a region/city in a way we can understand and rely on

3. *What level of detail of the analysis result do you expect from the plan4business platform?*

Level of Detail

European	5
National	8
Regional	11
Local	9

4. *For which countries or for what area do you expect the plan4business services to be available? (Different answers)*

Europe, Germany, Czech Republic, UK mostly, France, UK, Ireland, Western and Northern Europe, Scandinavia

5. *Please name projects and initiatives that might be relevant to the plan4business objectives.*

Related projects

- <http://www.eenvplus.eu/>
- SIG 3D CITY GML
- DLR >> Remote sensing >> City GML LOD 1,2,3,(4)
- INSPIRE BUILDINGS
- <http://www.fi-ppp.eu/> market software solutions, seeking for business models
- FCT INSURE
- EVIROFI
- Map for England
- ESPON
- Hyper Atlas

6. *Do you have any recommendations for the plan4business consortium that should be taken into account for future research and development?*

Recommendations

- Land use planning and SME opportunities - to increase sustainable business
- Public sector: it should be helpful to consider costs and benefits in EUR for environmental services as part of the Environmental Impact Analysis
- Background: Environmental Directive requires information (costs) for environmental services (e.g. costs for flood protection)
- Design: concentrate on a very focused app
- Multi-language metadata catalogue
- Define and state update periods for your data. Let user know when the data was released
- Open question: How can plan4business build up a trusted reputation as a data source?
- Have clear incentives for data providers to participate
- Use the membership concept
- Secure internet visibility
- Stick to quick wins with long-term strategy

Summary

The answers to the first question clearly indicate the importance of integrating spatial and zoning plans as well as statistical data in the Plan4business data pool, which is to be expected given the relevance the information contained will have from a business point of view to all categories of users. Data on natural hazards has been identified as a priority by 12 out of 13 individuals, validating its relevance in the European context and the urgency of providing a market product capable of displaying this data in conjunction with other relevant ones.

Generally, expected queries gravitate towards **issues of economic relevance, city networks, risk and environment assessment** as well as displaying a **well-rounded, up-to-date image of local and regional planning instruments** that can be put into perspective both historically and territorially.

The regional level has been considered to be the most probable one to display data on the plan4business platform, albeit the local level has systematically been considered the most relevant one of intervention. Realistically, most individuals filling out the questionnaires have considered Western (first choice), Northern and, to some extent, Central Europe (Germany, Poland) as being the areas in which the plan4business services will be available.

The recommendations from the questionnaires are integrated in the final recommendations.

Workshops

Six workshops were held during the project implementation in order to assess the state of art of major project achievements. Every workshop has brought together a number of international experts and key stakeholders in the field of geodata and spatial/urban planning. Four of these workshops have been held in the context of international conferences (Vienna, Rome, Florence), which has allowed a great visibility to the project activities, triggering at the same time an effective and relevant process of dissemination.

The entire minutes of workshops are provided within Annex A.

Findings of the workshops:

- The Data Market is increasing its critical mass, and it is today standard to have planning data together with property data, such as values, a mix of data being generally expected;
- As the data Market is an on-going system, the platform could offer a dynamic evaluation of specific situations;
- As usual in the real estate market, risks analysis and risks evaluation linked to real estate investments would be more attractive for surveyors, and the opportunity arises to integrate property values as added value in the system;
- Through the integration process, datasets will lose information: If there is interpretation of the data, there is a danger of losing some of their basic connotations and / or identity;
- Furthermore, data has to be assessed by its potential liability - Data liability is a crucial question to take into account. In case of lacking liability, the platform will lose attractiveness and reputation. These are basic properties if we look for offering services to investors' market.
- Knowing the data origin could provide both insights into originally-there connotations and a framework for interpreting data, while also reducing the risk of liability.
- The data should be open and totally accessible, as well as the related services: This was a fundamental aspect of the discussion and the essential question of business operations with the data, but raised in the background the question of relevance: would all end-users be able to comprehend highly-specialized urban/planning/building data?
- Local plans in several EU nations, e.g. in Poland, have a lot of textual information, but this is not available in the plans. Therefore, by harmonizing the plans a simplification takes place. As mentioned before, apart from a potential loss of connotation or identity, the data displayed by the platform will lose a lot of information and richness, maybe losing also its advantages and attractiveness.
- The platform would be attractive if all planned services are provided.
- Data availability is still limited within the plan4business consortium, there is the need to enrich the data pool (is plan4business really capable to provide an EU-wide coverage?).
- Data and services need to be regularly revised, this should happen designing a time-frame regulating data coherence and inclusiveness/integrity.
- Finally, it is suggested to have as much data as possible in the platform, but it has been contested/integrated that it's not useful if it lacks a set of specific properties making it qualitative (data quality vs. data coverage).

Three points emerge as key elements to take into consideration in the collection and management of data:

1. Data coverage
2. Data liability
3. Data quality

- Data to be available on local and regional level is deemed more important than national and European scale data – however, the area for which it should be available is Europe as a whole or at least for as much member states as possible.
- Concerning the kind of the data the opinions are pretty evenly split. Some put the focus on specific data like land use, (3D) buildings or statistical data, while others state that many kinds of data are relevant for planning activities and should be part of the platform.
- There are concerns regarding the data availability and the possibilities to keep the data up-to-date; barriers might emerge in gathering data from the local administration, as well as with updating and harmonizing datasets, the success of the last action being regarded with scepticism.
- Emphasis is put on cross-border use cases, e.g. flood protection.
- The platform needs to be highly disseminated.

As a conclusion, **following points/concerns** emerged as key elements that were taken into consideration in the platform elaboration:

1. **Data coverage (EU, regional, local)**
2. **Data liability (up-to-date, availability, data pool)**
3. **Data quality (detail level, data format)**
4. **Data scale (levels integration, compatibility)**
5. **Services quality (full integrated, accessibility, attractiveness)**
6. **Platform dissemination (not known by the customers, no interest by users)**

Stakeholder Board Meetings

The Stakeholder Board met three times; during those meetings, several remarks and discussion were developed.

Users are expecting from the plan4business platform an easy-to-use system, offering wide possibilities of statistical analysis, 2D/3D tools, mapping tools and infrastructure/real estate location analysis. Users are ready to pay for high quality services but expect a certain amount of free data available.

According to the analysis, the planning systems are different in Europe, even if they share a common structure: they all propose a number of normative tools, based on similar/comparable indicators and indexes, for different scales of action; therefore, the platform needs a system adaptable to every administrative level.

The plan4business stakeholders highlighted in a first round of remarks during the first Stakeholder Board meeting essential aspects:

1. The plan4business platform needs to identify critical use cases, with major interest on market, and use them as test bed;
2. An integrated model is needed for the platform – taking into account the different requirements of governance tiers;

3. A first selection of requirements should be provided as a „starting package“ (selected use cases will start to develop more promising/requested services: testing on main trends of current market demand);
4. The local level is the premium level of intervention, also taking into account the EU and other higher levels as benchmarks, even considering the fact that some data is not usable at local level (for example the Corine Land Cover);
5. The local level with cadastral information and normative land use plans is the most important if we would like to be successful;
6. The platform should be open to all users;
7. Information and communication to the users is necessary.

Hereafter the key findings of the discussions from the Stakeholder Board meetings:

- Simulation of the current concrete business model will be necessary in order to clarify what the data will really cost
- What kind of license will there be used: some data will be free, some will need a certain license, some will need to be purchased - How much would we have to charge to pay for the data?
- Because of the necessity to avoid any costs related to data collection, the approach should be towards incorporating it with the main data collectors (local authorities, which should receive some benefits to avoid unpredictable costs)
- Proposal: if someone provides data, which actually can be used, they can be rewarded with credit that they can use to access other data on the platform.
- There is no common price list for this kind of data – most was produced for internal use. Negotiations might have to be tailored to the data producer.
- One proposal / assumption – trying to avoid any financial flows with the administration, because of the complexity of this action
- Another issue – the size of the cities that provide information; in big cities it is easy to find said information, but in smaller ones that could be complicated. One proposal was piggybacking on the information provided in the Urban Atlas, which would mean focusing on the cities covered in the atlas (over 100.000 inhabitants). Another proposal – using the EUROSTAT dataset and national statistics offices. A reference dataset in order to geolocalize all statistical information is in process and will first be aimed at Germany, Poland and Czech Republic.
- How can the system provide the opportunity to access currently restricted data?
- Important – the inconsistency of how the policies at European level end up at the local level. The need for policy consistency across Europe and top-down could be answered by using the same standards at all levels. In terms of efficient application of policy, the project could be useful.

Services offered by the platform

- Achieving the portal is ambitious and challenging. It is important to have comparable data at national and European level, which at this point is difficult. Currently there is no capacity to analyse data by comparison.

- In order to encourage potential users to use the platform, the offer should be simple to operate and the cost of usage should be predictable and easy to access.
- Try to concentrate on high-level functions instead of trying to provide raw data. The role of the platform is that of a specific targeted analysis provider.
- The platform is open to everyone that wants to buy information from all the companies providing the data; all the companies should be receiving, using and sharing information cost-less.
- The implementation period of 2 years could generate a shift of perspective in regard to user requirements. It's important to consider the possibility of their needs changing. Identifying scenarios could help focus on providing some real uses for a certain user pool.

Business model

- The idea is still vague at the time – cases of cities that have already gotten investments based on a similar idea would be useful.
- Perhaps regional investment promotion agencies could have a use of the project as well and could sustain and promote it not only on city-level but in a wider context.
- The big cities already have a lot of investments in progress; maybe the small cities could be more attracted to the idea and could benefit more from the project.
- The challenge of attracting investors is complicated and place-based, taking into account a lot of factors.
- If there is a proposal to invest in a certain city or region, the investors contact advisors on-site rather than a pan-European authority. It is thus difficult to track investments, especially cross-border ones.
- Background information is what people will rely on to make an investment. Important questions: What's the baseline information needed to make something like this work? What is the nature and minimum amount of the information that you could put on a pan-European website in order for it to function properly and address the need to stimulate pan-European investments?
- All the big real-estate companies have networks in Europe. In case of expanding business, they might fall back on their own connections.
- It is very important to have National Partners to endorse and support the project, and also to have all the documents, which regard a certain country in its national language, beside English.
- The business model has to start from the core use-cases, and the most relevant level of detail has to be selected for each one; most professionals for example are interested in local site information, thus providing cadastre information would be highly marketable.
- Partner recommendation – the business plan should also collect the user involvement. What do they do now to solve the problem? What do they need to achieve? What are their current problems? Very important – Getting the users' attention and interest and verifying if the proposed process would cater to their needs.
- There needs to be more attention on how the local governments use data – a broader perspective on the public sector would help, esp. since they will be the main data providers for the project. Using data for spatial planning is pretty general and the specific uses would need to be clarified (proposal – using a flowchart).
- The information is already there, so the added value of the project would stem from the building of services, and being able to identify the customers' needs and expectations and then building the

solution based on the added-value services. There is more and more data, but there are no such services. Try to build an attractive business model, to go into a win-win situation: this is more a critical issue.

- Opportunities for the customers to get involved. Important – being able to negotiate and offer services to different customers. A critical point is that in the end, the user would want to combine the existing data with his/her own. End product has to be relevant.
- Just comparing/analysing the data isn't really the best service that could be provided.
- There is still the need to provide something unique, presenting the project to the stakeholders as 'added value'. If it's not relevant, it won't be used, so some time spent talking to core users will be necessary.
- The data is just the part of the program. Assessment of policy and policy impact (e.g. what happened 10 years afterwards) would need not only data but also the policy documents. The data is just a part of the problem, a support for the action. The problem is – what is the policy and what are the reasons for it?
- Priority – the analysis: talking to the customers about their current process and the possible benefits for them.

At the end of the process, the Stakeholder Board members recommended the following:

It might be useful to consider the key participants generating and using this information/data and how they see its benefits/disadvantages. The emphasis at present seems to be on the producer's side.

Commercialisation will require demonstrating a clear business case from the user perspective. It should also not be relying on increased regulation to generate demand for the info, which could really begin generating an artificial need.

1. **Technocratic Planner** – due diligence in decision-making requires the best and most relevant information to address the issues.
2. **Political decision maker** – decision making is conducted on a very lumpy basis often bearing little relationship to the sophistication of the information relied upon by the technocratic planner.
3. **Private sector user** – applicants/users can be required to match this extensive/expensive data used in spatial planning only to find that the final political decision may not be entirely based on it.
4. A concern frequently encountered is the increasing volume of information that is being required from the private sector by public bodies engaged in various types of evaluation only to discover that much of the evaluation bears little relation to the scope and volume of information submitted. This relates to EIA's, retail assessments etc. Because of the increasing availability of information part of the risk proofing in the process is to request as much of the available information as possible. Some awareness of proportionality in the collection and employment of data needs to be incorporated into the structuring.
5. The UK government recently cancelled 1,000 pages of planning guidance because it was overcomplicating the process, so the appropriate level of complexity of the platform is important.

As a conclusion from the Stakeholder Board Findings, **following points/concerns** emerge as key elements to take into consideration in the platform elaboration:

- 1. Integrated model is needed – taking into account the different requirements of governance tiers**
- 2. Requirements provided as a „starting package“ (selected use cases will start to develop more promising/requested services: testing on main trends of current market demand)**
- 3. Local level = premium level of intervention, also taking into account the EU and other higher levels as benchmarks**
- 4. Local level with cadastral information and normative land use plans is the most important if we would like to be successful**
- 5. The platform should be open to all users/ Information and communication to the users is necessary.**

The entire list of Stakeholder Board Meetings Minutes is provided within Annex A.

5 Customer Summary

Main contents and lessons learned

After the gathering process of information and feedback through questionnaires, meetings, workshops, stakeholder board meetings, a synthesis of essential points regarding the platform implementation can be displayed, as well as the connected solutions implemented by the project consortium.

Synthesis of customers feedback / stakeholder board from questionnaires and meetings:

Nr	Feedback from Customer/Stakeholders	Connected solutions / implementations
1	CRM System is reference for the platform	The decision to use the CRM system has been demonstrated as positive for the management of customers and the use of customer references.
2	Clear business case from user perspective needed	The business case has been developed as a clear solution for the plan4business platform in the Business Plan document
3	Think out of the box and innovate new solutions – not relying on increased regulations to generate demand for information	New innovative solutions have been developed based on the actual available stock of data; based on this, new services were developed, as well as new services can be offered related to the existing platform structure
4	Need to offering something unique – added-value	The added-value of the platform services was considered after the development of the “onion-model” and the related partners involvement
5	Appropriate level of complexity is key	This is an important aspect the consortium is aware of, although it is not easy to keep the balance between the available data and the appropriate services
6	Services and data offered have to be attractive	Crucial aspect of the platform; a sustainable platform will only function if both are attractive and easy available – those aspects were regularly discussed in the consortium and taken into account
7	Be aware on local planning regulations	Local planning regulations are part of the culture of each country and have to be respected; it is not easy to integrate regulations in a platform. This can be done only in a simplified way.
8	Data is just a part of the whole picture	Yes, the aspects of services are as much as important as the data

6 Conclusion and perspectives

The deliverable collected, summarized and interpreted the project experience of the plan4business platform (CRM System) of the potential customers, gathering the feedback from the held workshop, stakeholder board sessions and other events and conferences, while also considering the system implementation and future business model.

The CRM model can be viewed, after two years of project life, as successfully implemented to date through a wide palette of actions falling under three targeted actions: acquiring and retaining customers as well as continuously enhancing the relationship to different user groups. The first action has so far been implemented through a wide action of questionnaires, contacts to users during openness and dissemination events, as well as acquiring contacts from other projects, generating a total number of 146 contacts and over 126.000 distribution addresses, which generated well-rounded customer input.

As previously stated, the process of requirements management had been regarded from the beginning as a continuous process of collecting feedback and additional requirements. From a content point of view, requirements management and feedback have been gathered through several methods that ensured an ample overview of perspectives from questionnaires, workshops and events as well as the three stakeholder Board Meetings held. While the questionnaires revealed a general agreement towards the most needed or marketable services to be provided by the platform (added value – up-to-date and historical planning data from spatial and zoning plans, statistical data, risk and environment assessment), they also provided a realistic image of the initial level and areas where plan4business data could be displayed – the regional level of countries with a more reliable and well-rounded data pool from Western, Northern and Central Europe.

The workshops revealed a set of key elements to be considered in the implementation of the platform highly focused on the data characteristics (coverage, liability, quality, scale) but not losing from sight other crucial aspects – the services and the need for platform dissemination, which has been considered of utmost importance. The Stakeholder Board meetings also pointed out several crucial aspects to be integrated in the process of platform elaboration, among which integration and openness of the platform, the focus on the local level as the most marketable one and the necessity of providing requirements as a “starting package”.

Through the recommendations issued by the stakeholders, a clear underlining of the quality, coverage and liability of the data can be observed. In order to ensure success, the plan4business platform should provide a mix of useful and updated data in order to consolidate its reputation as a reliable service provider. It will also have to provide, either freely or through a membership concept, an array of information of known origin within the margins of usefulness and profitability: land use, buildings, statistical data, as well as other potentially attractive data, such as property value. Integration is key, yet a successful harmonization of datasets is regarded with scepticism due to potential barriers to data availability posed by local administrations.

Equally as important, the accurate identification of needs of the different user types (technocratic planner, political decision maker, private sector user) as well as market opportunities should be based on the core use-cases, taking into account the fact that requirements differ between governmental tiers and territorial levels, with the local level being considered the premium level of intervention which should contain information on cadastre and normative land use plans as prerequisites of market success.

Feedback can ultimately be considered positive towards both the developments of the plan4business platform, as well as the CRM model, which has proven itself from the customer management point of view. It is apparent that the platform has to respond to certain market needs and clear business cases, by offering unique products that generate added value (the “onion-model”), an easy to work with, attractive and

appropriately complex tool. Furthermore, next steps should prioritize data, but as a part of the whole plan4business picture, where services and dissemination are equally important for its consolidation in the market. Success relies both on data and building a trusted reputation as well as on internet visibility and the attention given to the promotion and diffusion of generated solutions.

7 Annex A

Questionnaires

	1	2	3	4	5	6	7	8	9	10	11	12	13
	User	User	User	User	User	User	User	User	User	User	User	User	User
	Portugal	Canada	Germany	Finland?	Germany	Spain	Czech Republic	Germany	UK	UK	UK	UK	UK
	Territorial Directorate General		architect, 3D city GML, INSPIRE	JRC	LLUR	Dezide	Masaryk University	ESRI		IPD	Space Syntax Ltd.	SKM Colin Buchanan / ISO CARP	Royal Town Planning Institute
1 DATA													
European CLC, Urban Atlas, ...	1		1	1		1			1		1	1	1
Reference OSM, orthoimagery	1		1	1	1	1	1		1		1		1
Spatial / zoning / urban plans	1		1	1	1	1	1	1	1	1	1	1	1
Statistical	1		1	1		1	1	1	1	1	1	1	1
Cadastral	1		1		1	1	1			1	1		
Topographic	1		1		1	1					1		
Protected areas	1		1	1	1	1	1				1	1	
Natural hazards	1		1	1	1	1	1	1	1	1	1	1	1
Other		underground utilities, BIM models	3D, City GML	data analyses over integrated datasets that enable stakeholders to make data driven decisions	cost benefit assessment > ranking, alternatives in terms of potential locations for different land use	as much data as possible, always when is available, trusted, reliable, can fit for purpose	environmental data, demographic data				Performance/user data, transport values, land values, retail rents, etc.	cadastral and topographic data are too detailed / difficult in the first instance	
2 QUERIES	supporting land use planning with effective economic growth	1. geolocating underground utilities 2. Energy - performance analysis of buildings 3. permitting BIM	master plans, town planning plans, building/food plans							1. local economic performance stats (macro/micro) 2. flood risk, air quality, rainfall, sunshine hours 3. planning history & zoning	up to date plans, committed development proposals	overview of a region/city in a way we can understand and rely on	
3 LoD	European					1	1			1	1	1	
National	1				1	1	1		1	1	1	1	
Regional	1			1	1	1	1	1	1	1	1	1	1
Local	1	1	1	1	1	1		1		1	1		

4	COVERAGE		Europe	Germany, Europe		Czech Republic, Europe	UK mostly, Germany, France	UK, Ireland, Western and Northern Europe	EU	Middle Europe, Eastern Europe first Then smaller nations (Cyprus, Malta, etc.) that have limited capacity to analyse data themselves	EU, Scandinavia
5	RELATED PROJECTS	http://www.eenvplu.s.eu/	3D Las Vegas - 3D model of underground and overground utilities	SIG 3D CITY GML INSPIRE Buildings	http://www.fi-ppp.eu/ market software solutions, seeking for business models	environmental directives	FCT INSURE EVIROFI			- evidence base for public funding (Administrators) - non-EU investors (macro-knowledge) - other (more detailed) data analysis provides	Map for England ESPO N Hyper Atlas
		http://www.esdi-humboldt.eu	2D Tokyo, Calgary, Edmonton, Sarajevo	DLR >> Remote sensing >> City GML LOD 1,2,3,(4), INSPIRE BU							
6	RECOMMENDATIONS	Land use planning and SME opportunities - to increase sustainable business	estimated return of investment for geolocated underground utilities is in the range 35:1 and 21:1 (university research)		public sector: it should be helpful to consider costs and benefits in EUR for environmental services as part of the Environmental Impact Analysis background: Environmental Directive requires information (costs) for env. services (e.g. costs for flood protection)		Design very focused app.	multilingual metadata catalogue	define and state update periods for your data. Let user know when data was released how can plan4business build up a trusted reputation as a data source	- have clear incentives for data providers to participate - membership concept	Secure internet visibility Stick to quick wins with long-term strategy

Workshops

Six workshops were held during the project implementation in order to assess state of art of major project achievements. Every workshop has brought together a number of international experts and key stakeholder in the field of Geodata and spatial/urban planning. Four of these workshops have been held in the context of international conferences (Wien, Rome, Florence), this has permitted to give a great visibility to the project activities triggering at the same time an effective and relevant process of dissemination.

The entire list of workshops is provided below.

CORP Workshops

Two workshops took place in the context of the International Town Planners Conference CORP: first one in Vienna, and a second one in Rome. REAL CORP conferences are held annually since 1996. About 400-500 experts from around the world from the fields of urban planning, transport planning, information and communication technologies, architecture, social and environmental sciences, real estate, GIS, surveying and remote sensing and more meet to discuss the latest tasks and topics on urban planning, regional development and information society in an international and extremely interdisciplinary conference.

CORP Conference May 2012 Vienna

Program:

1. Short Introduction to the Plan4Business Project
Didier Vancutsem, ISOCARP
2. Enabling a Planning Data Tool
Thorsten Reitz, Fraunhofer Institute IGD Darmstadt
3. From Plan4all to Plan4Business
Karel Chavat, HSRS
4. Discussion with Users / Stakeholders:
Requirements Management, Development Infrastructure and Service Pricing

Discussion:

The discussion focused on basic points linked to relationship among data, planning instruments, and real estate key features, following points summarize the faced issues:

- (mixing data with different qualities) - The Data Market is increasing its critical mass, and it is today standard to have planning data together with property data, such as values.
- (plan4business platform as dynamic tool) - As the data Market is an on-going system, the platform could offer a dynamic evaluation of specific situations.
- (assessing risks in the real estate market) - As usual in the real estate market, risks analysis and risks evaluation linked to real estate investments would be more attractive for surveyors.

As this was an initial workshop, the questions raised constituted the starting point for further topics evolutions in Plan4business:

- In the context of having a platform accessible to surveyors and real estate investors as well, would it be possible to integrate also the property values in the system?
- About managing the data rights by the overlapping of different layers and different origins, who has the rights to do it? – e. g. Integrating the urban atlas with own data, etc.
- About the data origin: Where do the data come from? How can we assess their liability?

Conclusion of this first workshop were:

- Plan4business is a thought-provoking project looking to manage the relation between consolidated procedures in planning with the innovative opportunities connected to geodata possible exploitations;
- Invited participants express their interest in being involved in later steps.
- The Project is going to present results during the next CORP in 2013.
- A short questionnaire to be sent to stakeholders and participants is going to be developed.

CORP Conference Workshop May 2013 Rome

Customer workshop at the CORP Conference in Rome

A further plan4business workshop took place one year later during the 2013 CORP Conference (20-22 May 2013, [Planning Times](#)) in Rome. Topic of the 2013 international conference was to assess possibilities connected to “the real time planning” both in terms of planning instrument and in terms of innovative technologies to use for planning purposes. The themes connected to use of geodata were particularly important in the context of this symposium. The workshop focussed on the feedback provided by customers / end-users of the platform. The workshop attracted conference participants from different countries and professional practices.

Following presentations took place:

- Introduction to Plan4business / User Requirements, Didier Vancutsem (ISOCARP)
- Business Model / Data infrastructure, Przemek Turowski (GEOSYS)
- Data integration / Data Model, Otakar Čerba (UWB)
- Discussion, Moderation ISOCARP

The main results of the discussion can be shortened as following:

- Through the integration process, datasets will lose information: If there is interpretation of the data, there is a danger of losing some of their basic connotations and / or identity.
- The data should be open and totally accessible, as well as related services: This was a fundamental aspect of the discussion and the essential question of business operations with the data.
- Local plans in several EU nations, e.g. in Poland, have a lot of textual information, but this is not available in the plans. Therefore, by harmonizing the plans a simplification takes place. The platform will lose a lot of information and richness, maybe losing also its advantages and attractiveness.
- Finally, the platform would be attractive if all planned services are provided.

RICS Workshop

Stakeholder Workshop in London

Further Stakeholder Workshop took place in London on 8.3.2013, organised by ISOCARP and R.I.C.S.

After the plan4business introduction (Didier Vancutsem, ISOCARP), a series of presentations pin-pointed:

- the way of collecting, providing quality to data, elaborating and aggregating it, following clients demands and requests (Colm Lauder, IPD);
- evidences on how the urban layout can influence the business potential of urban areas (Anna Rose, Space Syntax);
- the use of data in order to understand vacancy information on urban supply sites (Robert Wilkinson, Experian);
- the Map for England project – an attempt done in England to map policies and territorial actions/initiatives at national scale, in which cumulative effects are highlighted (Peter Shand, RTPi);
- activities in the field of geo-location and environmental studies (Nigel Mehdi, Mehdi Consultants).

The discussion focused on the fact that the plan4business platform requires data quality, data coverage and added value services connected with willingness to pay for the services.

A set of questions arose during the lively discussion, amongst which:

- What if the data is not regularly updated?
- Is there an involvement of partners in this initiative?
- What about its attractiveness for cities and administrations? Do they want to update by themselves?
- What's the role of private and public actors in the use of the plan4business smart toolkit?
- How does the platform facilitate the interaction between public and private actors?

About collection of data and its use/harmonization:

- Data availability is still limited within the plan4business consortium, there is the need to enrich the data pool (is plan4business really capable to provide an EU-wide coverage?).
- Data and services need to be regularly revised (C. Lauder), this should happen designing a time-frame regulating data coherence and inclusiveness/integrity.
- Data liability is a crucial question to take into account. In case of lacking liability, the platform will lose attractiveness and reputation (T. Mulhall). These are basic properties if we look for offering services to investors' market.
- Finally, C. Lauder suggested to have as much data as possible in the platform, but it has been contested/integrated that it's not useful if it lacks a set of specific properties making it qualitative (data quality vs. data coverage).

Three points emerge as key elements to take into consideration in the collection and management of data:

1. Data coverage
2. Data liability
3. Data quality

Several statements have been made on plan4business future business development:

- If plan4business platform is a business solution for cities, then how to make it attractive for providers?

- Discussion may deepen around the role of the cities as information providers that could use the plan4business platform services in return (P. Elisei).
- P. Tuross highlighted how the business model has this characteristic of being based on partners, especially cities, which, at the same time, are data providers and have, in response, services with added values.
- There is need for interaction with authorities, but maybe public authorities may be not interested in sharing real data about some specific urban areas (A. Rose).
- What if municipalities are not providing data?
- Cities could have interest in using the platform as a way to propose their policies/initiatives in order to address the investor's actions/to attract investments. In this case, the plan4business smart toolkit may consent to territorial partners to use it in a pro-active way and not just as services' clients.
- Map of England (P. Shand, <http://www.idoxgroup.com/mapforengland/>) in a way already realizes an online model similar to plan4business aims; it interests the possibility of assessing cumulative effect of policies; the portal did not achieve that sort of detail, that kind of consent business, and hence, it seems to be more indicated for general research purposes.
- It is definitely a potential for cities to get more attractive, as a quick way to express this towards EU channels
 - partial datasets / lots of data imply quick overviews most useful;
 - harmonization of datasets: are we going to change the way of planning?
 - nowadays it seems impossible to find harmonized datasets, hence, not convinced to have it in the future;
- Involving the private is also interesting: IPD and Experian are interested in involvement, at the cost of having defined new goals and new products

Questions for catching users' attention: what is the concept of plan4business?

- Plan4business should act on the inter-regional / macro level;
- Plan4business should provide a catalogue of spatial plans;
- Start with a quick win – quick solution for a particular area, level of detail, ... – afterwards extend it to build on it;
- A link to ESPON should be made;
- Plan4business should define the added value of the plan4business services;
- Reliability of data – maintaining data up-to-date – needs to be considered.

The workshop participants are listed in the minutes of the event available in the intranet.

INSPIRE Workshop

The INSPIRE Workshop was organized during the INSPIRE Conference in Florence.

Workshop at the INSPIRE conference in Florence

In context of the INSPIRE Conference 2013 in Florence, a workshop was held by Fraunhofer, ISOCARP, HSRS and Avinet on June 24th 2013. It featured a general introduction to the project, a view on business cases and stakeholders, a presentation and demonstration of the system, and the roadmap and challenges of the commercialisation of the platform. Interested participants had the possibility to fill out a short questionnaire on their expectations and recommendations for the plan4business platform. These are the main conclusions from the filled-in questionnaires and the discussions that followed:

- Data to be available on local and regional level is deemed more important than national and European scale data – however, the area for which it should be available is Europe as a whole or at least for as much member states as possible.
- Concerning the kind of the data the opinions are pretty evenly split. Some put the focus on specific data like land use, (3D) buildings or statistical data, while others state that many kinds of data are relevant for planning activities and should be part of the platform.
- There are concerns regarding the data availability and the possibilities to keep the data up-to-date.
- Emphasis is put on cross-border use cases, e.g. flood protection.

End-user Workshop Brussels

An end-user workshop was organized in Brussels in November 2013. The programme of the end-user workshop was the following:

- *Towards a European spatial planning geoportal: the French "géoportail de l'urbanisme"*, François Salgé, Ministry of Ecology, Sustainable Development, Transports and Housing, France
- *The ESPON programme and the use of spatial data on the European level*, Marjan van Herwijnen, Project Expert - Statistics, Data and Maps, ESPON Coordination Unit, Luxembourg
- *International Property Measurement Standards: measurement of property in support of valuations connected to urban planning data*, Tony Mulhall MA MSc MRICS, Associate Director, RICS Professional Groups and Forums, London, UK
- *Spatial Data and Urban Planning – how they are interlinked*, Norbert Janiesch, Department Geoinformation, Regionalverband FrankfurtRheinMain, Germany
- *The plan4business platform and business planning*, Joachim Rix, Fraunhofer IGD, Darmstadt – Przemyslaw Turos, Geosystems Poland
- *The features of the plan4business platform*, Jan Jezek, UWB
- *Long term sustainability for plan4business platform*, Karel Chavat, HSRS

François Salgé presented the French situation and the challenges of the implementation of a geoportal for all municipalities, emphasising on the fact that too many municipalities nurture on a complicated situation. Delivering CWS is in good terms, yet in France, there are guidelines to describe the planning datasets – mechanisms for assigning keywords.

Further discussions materialised into the following ideas:

- although the French geoportal developed mechanisms for WMS/WFS download, there is still the emerging question of how to standardize the view on the spatial plan;
- data will not be centralized – there is a need for regulations on how to store data;

- smart cities as rooms for spatial planning;
- description of the ESPON programme, different projects, one is the ESPON 2013 database (Marjan van Herwijnen);
- Olap cube – ESPON Database portal, metadata, data check, outlier handling, application, demonstration – database;
- there is a clear potential of using urban data, hence responding to the market imperfections; the existing challenge lies upon the difficulty in transparency – defining standards is a bare necessity; there are also different opportunities for the Real Estate, such as occupier, or manager; clear reference pin-points towards IFRS and NS – international valuation standards (Tony Mulhall, RICS);
- Presentation of a concrete case of regional planning (Norbert Janiesh);

The Plan4Business platform is an urban & regional planning platform which targets to:

- serve the users to provide a full catalogue of planning data in the area;
- make accessible some services, from an European perspective;
- get the urban, regional planning data as a basis for planning decisions on the governmental level;
- access harmonised data in integrated form;

Plan4business platform acts as tool for urban developments.

The French geoportal described by François Salgé addressed the issue of the energy infrastructure which, for instance, cut (in case of e.g. Energy systems being a bad boom), does not constitute part of the geoportal, although there's a clear link towards this problem; within the near future, the geoportal envisions a coherent interconnection between all its constituting counterparts.

Another encounter was the coverage of the Special Plans, for which, for example, in Britain, they held 50% of the entire production in 2004. In France, the **standardization** would be following a sequence of steps/trends, such as:

- introducing a more professional way of making special plans (getting more GI technology into creating the aforementioned);
- forcing the local governments to move to the digital world, e.g. in case a paper is not digitized, the special plan will be cancelled, and, subsequently, in case the special plan will not get published in the geoportal by 2020, this will restrict the possibility of building;
- the 'regional' will of having special planning at a level of a group of municipalities;
- the 'political' will to have Schéma Gouvernance Territoriale – an Upper Special Planning starting 2017 although with less GI content;
- questioning the responsibility of municipalities upon where to implement certain data.

With respect to **having the data made more public** in France:

- out of 27 regions, 20 already started to build a local ESDI in order to intermediate between the local municipality and the national government;
- in the future, there is a trend to experiment on how to connect the regional system with the national one.

Concerning the **availability of the data towards citizens**:

- in case the geoportal would be open to anyone, everyone would be able to look at it, despite not having special urban / planning / building skills; therefore, would they be able to understand it? this raised up the question of relevance;
- further leading onto the need of providing a chain of services: change of services, possibility to develop services over the entire geoportal, harmonization with the current geoportal,
- while there is a political will to have an unique place where to store all the GI information available in France.

A full recognition has been attributed towards the following needs / states-of-the-art:

- availability of the google service;
- STATUS embodies registered users; harmonisation and potential;
- delivering a business panel translates into a plan4business task;
- large scale data requires data preparation;
- there is not enough to cover all data for all Europe;
- the necessity of analyzing the unique situation in Europe for different countries;
- data is more important than the development work;
- a sustainable model for cooperation is deemed in the future to establish the role of the public bodies;
- open data terminology requires to have the platform divided in 2 parts: one hosting open data for the association and one hosting data sustainability + business sustainability; task of data sustainability is more challenging than the development of the platform;
- ownership protection issues concerning making the data publicly available;
- most challenging issue is mixing 2 data sets having 2 different licenses;
- the collection of data represents the starting point for the majority of projects, an aspect to be taken into consideration for the plan4business service availability on providing for the aforementioned;
- harmonization with transport data;
- prime service could work also with local services;
- Ireland for example has a comprehensive cumulus of data, although difficult in accessing/sorting; there are also around 200 special plans already harmonised there;
- strategies customised on a country basis; cultural + semantics consist of the (fore)ground part;
- risk of too much conversion;
- operating data inside the platform;
- tackling the Real Estate: development / investors;
- tackling the Real Estate: estimating the real abjective land values different from the land prices;
- tackling the Real Estate: centers of the cities having signs with "RENT" or "SALE";
- absent need for new constructions due to not enough financial power;
- empty city centers;
- inequality of Economical Europe – poorer areas within the South and East;
- harmonisation in balancing (cost & efficiency) to achieve sustainability;
- issues in administration: decentralized Italy, centralized Greece (?)
- issue upon how to lend investments with different land systems?
- energy infrastructure supports businesses;
- available information not ready to be externalized;
- questions upon data collection: what is information? / what is expected to be innovative? / what does one get for free?
- information not ready to be internationalized;
- need for special analyses;
- issues in processing implementation – loose efficiency in implementation;

- different cultural perspectives at European level;

The **ESPON Programme** ensures:

- availability of maps linked with additional tools;
- a certain reliability;
- proper information at urban level and most information at regional level;
- enormous data to be handled, coming from the local level;
- lower accessibility in terms of CU Data of US DOT (National Statistical Institute);
- different categories of ownership / commercial availability: public available data, whilst project is paid by the European Commission; public available ESPON material, without any availability for selling the data; ensuring a certain degree of reusing the data in case it produces new data;

Norbert Janiesch strengthened the aspects of:

- the political will,
- the importance of being engaged within a political group,
- clear statements concerning standards,
- the implication of the financial institutions,
- the methodical measurement of space in order to afterwards deliver values, and
- the certain need for evaluating spaces.

Conclusions of the Workshop agreed upon the facts that:

- the technical structure of the plan4business platform are within the standards;
- services generated should be better defined, and sent to the end-users;
- platform needs to be disseminated.

Stakeholder Board Meetings

Following Stakeholder Board Meetings took place:

Stakeholder Workshop in Plzen

A first stakeholder meeting took place in Plzen on October the 2nd, 2012. The following stakeholders attended the meeting:

- *François Salgé*, (AFIGÉO), France, EUROGI Vice President
- Tony Mulhall, Administrative Director RICS, UK
- Robin Waters, RSW Geomatics, UK
- Maria Cabello, TRACASA, Spain

The meeting has been moderated by ISOCARP. The participants discussed following:

- Requirements (data and users) presentation and discussion (ISOCARP)
- Data available and planned (UWB)
- Showcase of the plan4business platform with focus on use cases (UWB)
- Approach for the business model (GeoSys)

On this occasion, other previous projects on similar topic (e.g. CROSS-SYS, PLAN4ALL) have been reviewed and discussed in order to build upon outcomes of former research experiences. The different EU

planning systems have been analysed, among the different normative tools, as the different planning scales, the local one has been considered as the most suitable for data harmonisation purposes: the zoning plans at municipal level are the easiest to harmonize at EU scale; this is the most important planning scale for business, because it is connected to real estate initiatives and notaries (an emerging activity related to SDI). It seems that the zoning plans at municipal level are the easiest to harmonize at EU scale; this is the most important plan for business, because connected to real estate initiatives and notaries (an emerging activity related to SDI). **There is a huge number of zoning plans, but those are not available by the municipalities: How do we get there and what is our role: What is our message to sell?**

Further remarks / reactions related to the presentations were the following:

- **The Corine Land Cover is not usable at local level** (not adequate for normative zoning plan): Pan European data sets are not usable at municipality level (not sufficient accuracy), higher accuracy might be reached in 2013 through GMES. In taking into account the potential for densification in the city, as a current planners/planning issue, it is to notice that it is important in this system (like the PLAN4BUSINESS) to have access to good data and keep them up to date (in this way they could be a new effective tool). About data: **good data have to be collected: How to keep the data up to date?**
- The **level of confidence of data is essential in order to start business processes**. There is a need to test the confidence (self-reliance) of the result. The pyramid presented in the slides clearly shows how the data complexity is growing at the base (local level), at higher level, data and their representations are more reliable and easier. **About the use of the data for the smart toolkits (as PLAN4BUSINESS platform): Do we keep our own storage or get current data online through services from providers?**
- Finally, about open data it is worth considering that **many municipalities do not consider spatial data as open data**.
- A Building Information Modelling (BIM) is necessary, interfacing future data with the platform modelling information. It should be a BIM approach to submitting application. It should be the aim to build a proxy for the city at the macro-level, as it is a very dynamic source of information, and should be maintained up-to-date with the local level. Therefore, **an interface between the Building Information Model and the planning information is “mandatory”**.
- Also the **topic of the value of land is a key issue**: a lot of requirements are related to that today, and this information is difficult to get, maybe via subsidies (offering services related to value of land – properties to be sold at low level - here a business case), or registries services (in the hand of public authorities), or via the real estate people (in this case necessary to pay some fees).
- It seems that the **reliability at the small scale is crucial, and it should be in an up-to-date form**. For example flooding sites are accessible and important information, which should be included. Therefore, identifying the level of information for different services is an important task: real estate needs different data as the information services etc. We have here different levels of aggregation. **What would be the most appropriated level of data?** To what extent, referring to the UWB triangle, building information model and the spatial information is that technically possible? In the UK: 400 planning authorities are on their own.
- **Which level of details is important? The most of the professionals are interested in the site information**. Private companies developed already their own SDI, and have a portfolio of information. It seems that the Key would be the cadastre information, working as a system secured with information added.

Stakeholder Workshop in Warsaw

On 12.03.2013 a workshop took place in Warsaw with five members of the stakeholder board. The project partners presented on the following topics:

- Welcome word and plan4business introduction (IGD)
- Requirements Presentation and discussion (ISOCARP)
- Data available and planned (UWB)
- Showcase of the plan4business platform with focus on use cases (UWB)
- Approach for the business model (GeoSys)

Following are the main discussion points summarized:

Data acquisition and provision

- Simulation of the current concrete business model will be necessary in order to clarify what the data will really cost
- What kind of license will there be used: some data will be free, some will need a certain license, some will need to be purchased - How much would we have to charge to pay for the data?
- Because of the necessity to avoid any costs related to data collection, the approach should be towards incorporating it with the main data collectors (local authorities, which should receive some benefits to avoid unpredictable costs)
- Proposal: if someone provides data, which actually can be used, they can be rewarded with credit that they can use to access other data on the platform.
- There is no common price list for this kind of data – most was produced for internal use. Negotiations might have to be tailored to the data producer.
- One proposal / assumption – trying to avoid any financial flows with the administration, because of the complexity of this action
- Another issue – the size of the cities that provide information; in big cities it is easy to find said information, but in smaller ones that could be complicated. One proposal was piggybacking on the information provided in the Urban Atlas, which would mean focusing on the cities covered in the atlas (over 100.000 inhabitants). Another proposal – using the EUROSTAT dataset and national statistics offices. A reference dataset in order to geolocalize all statistical information is in process and will first be aimed at Germany, Poland and Czech Republic.
- How can the system provide the opportunity to access currently restricted data?
- Important – the inconsistency of how the policies at European level end up at the local level. The need for policy consistency across Europe and top-down could be answered by using the same standards at all levels. In terms of efficient application of policy, the project could be useful.

Services offered by the platform

- Achieving the portal is ambitious and challenging. It is important to have comparable data at national and European level, which at this point is difficult. Currently there is no capacity to analyze data by comparison.

- In order to encourage potential users to use the platform, the offer should be simple to use and the cost of usage should be predictable and easy to access.
- Try to concentrate on high-level functions instead of trying to provide raw data. The role of platform is that of a specific targeted analysis provider.
- The platform is open to everyone that wants to buy information from all the companies providing the data; all the companies receiving, using and sharing information cost-less
- The implementation period of 2 years could generate a shift of perspective in regard to user requirements. It's important to consider the possibility of their needs changing. Identifying scenarios could help focus on providing some real uses for a certain user pool.

Business model

- The idea is still vague (AR) – cases of cities that have already gotten investments based on a similar idea would be useful.
- Perhaps regional investment promotion agencies could have a use of the project as well and could sustain and promote it not only on city-level but in a wider context.
- The big cities already have a lot of investments in progress; maybe the small cities could be more attracted to the idea and could benefit more from the project.
- The challenge of attracting investors is complicated and place-based, taking into account a lot of factors
- If there is a proposal to invest in a certain city or region, the investors contact advisors on-site rather than a pan-European authority. It is thus difficult to track investments, especially cross-border ones.
- Background information is what people will rely on to make an investment. Important questions: What's the baseline information needed to make something like this work? What is the nature and minimum amount of the information that you could put on a pan-European website in order for it to function properly and address the need to stimulate pan-European investments?
- All the big real-estate companies have networks in Europe. In case of expanding business, they might fall back on their own connections.
- It is very important to have National Partners to endorse and support the project, and also to have all the documents which regard a certain country in its national language, beside English. (MCS)
- The business model has to start from the core use-cases.
- Partner recommendation – the business plan should also collect the user involvement. What do they do now to solve the problem? What do they need to achieve? What are their current problems? Very important – Getting the users' attention and interest and verifying if the proposed process would cater to their needs.
- There needs to be more attention on how the local governments use data – a broader perspective on the public sector would help, esp. since they will be the main data providers for the project. Using data for spatial planning is pretty general and the specific uses would need to be clarified (proposal – using a flowchart).
- The information is already there, so the added value of the project would stem from the building of services, and being able to identify the customers' needs and expectations and then building the solution based on the added-value services. There is more and more data, but there are no such

services. Try to build an attractive business model, to go into a win-win situation: this is more a critical issue.

- Opportunities for the customers to get involved. Important – being able to negotiate and offer services to different customers. A critical point is that in the end, the user would want to combine the existing data with his/her own. End product has to be relevant.
- Just comparing/analysing the data isn't really the best service that could be provided.
- There is still the need to provide something unique, presenting the project to the stakeholders as 'added value'. If it's not relevant, it won't be used, so some time spent talking to core users will be necessary.
- The data is just the part of the program. Assessment of policy and policy impact (e.g. what happened 10 years afterwards) would need not only data but also the policy documents. The data is just a part of the problem, a support for the action. The problem is – what is the policy and what are the reasons for it?
- Priority – the analysis: talking to the customers about their current process and the possible benefits for them.

Glossary

Stakeholders refer to individuals or organisations who have vested interest in the success of the project. Stakeholders can be individuals who use the plan4business system or who are mainly interested in the outcome of the project. These can include functional, political or financial beneficiaries; operators, developers, public, experts or user community. Stakeholders are represented in plan4business through the partners and the Stakeholder Board.

Use Case represents one possible functional process within a scenario. It indicates actions performed by specific actors that are required to achieve a specific goal. A use case can have multiple paths that can be taken by any actor at any one time. Use cases are described using a use case description template including Use Case Nr., Title, Sector, Category, Type of User, Business Activity, Target group addressed, Business Case Story, Client, Product, Dimension/Spatial/Financial, Working Time, Method used, Approx. Honorarium expected, Governance Project, Proposed Data requirement, Other Information (see D3.1).

plan4business Platform refers to the web platform that will be designed and developed in the plan4business project to offer urban and regional planning data users a full catalogue of harmonized planning data and services such as transport infrastructure, regional plans, urban plans and zoning plans.

Requirement is a characteristic, quality, condition or capability that a system should or must have based on the statement of a customer need or objective to satisfy such a need or objective. Requirements can be classified functional or non-functional.

Use Cases Specific (Functional) Requirement specifies a function that the plan4business system must be able to perform and refer to the intended behaviour of the system. These include definition of technical aspects such as system calculations, data processing, user interface and interaction with the system.

Overall (Non-Functional) Requirement is a statement of how a system must behave, it is a constraint upon the systems behaviour and refers to e.g. security, performance, reliability, usability etc.

Acceptance Criteria are created by business customers and partners responsible for the stakeholder engagement. They are usually expressed in a business domain language. These criteria are used for high-level tests to verify the completeness of a user story or stories at any development stage. These tests are created through collaboration between the potential customers, partners responsible for the stakeholder engagement, testers, and developers. It's essential that these tests include both business logic tests as well as UI validation elements. The business customers (via partners responsible for the stakeholder engagement) are the primary project stakeholders of these tests. As the user stories pass their acceptance criteria, the partners responsible for the stakeholder engagement can be reassured the developers are progressing in the right direction.