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Inspire Policy Making with Territorial Evidence

TARGETED ANALYSIS //

DIGIPLAN – Synthesis report

Evaluating spatial planning practices with digital plan data

Final delivery // June 2021

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Digital plans and plan data – Synthesis report

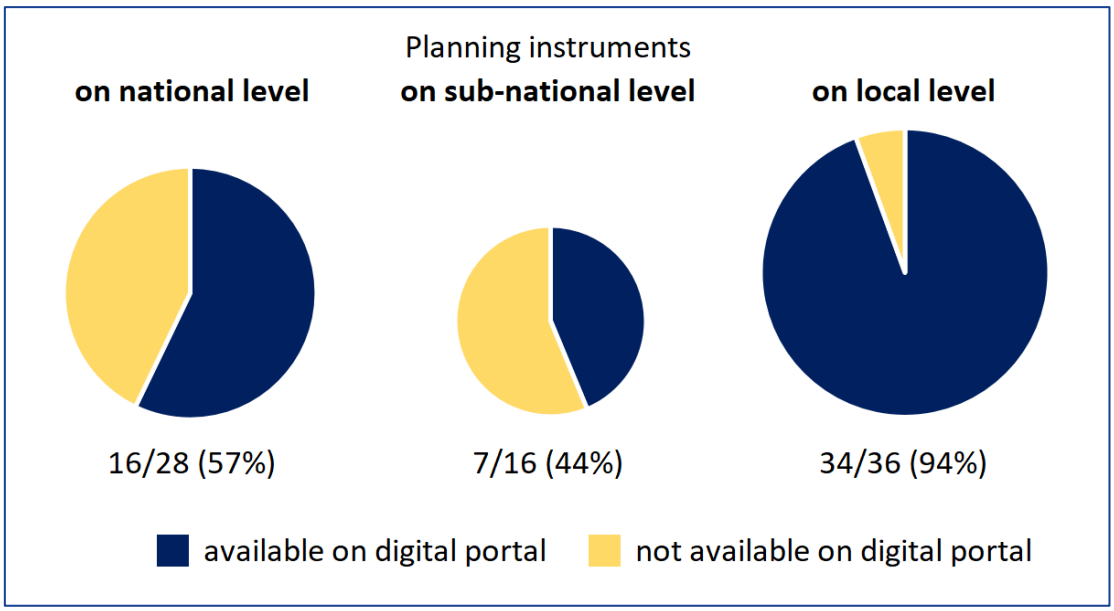
In the past decade, many European countries have taken significant steps to set up digital plan registers and digitise spatial planning processes. The digitalisation process is driven by ideas of efficiency, expressed for example in the concept of "smart cities" and "digital governance", ideas of participation and improved public service, like "open government" and "open data", and an aspiration for new economic growth and business opportunities based on this.

Digital plans and plan data open a range of new opportunities for new planning practices. However, evidence on the impact of this digitisation on e.g. efficiency, innovative practice or transparency in planning is lacking. In the DIGIPLAN project we explored the development and state of digital plans and plan data in several European countries as well as the obstacles and main drivers for the digitalisation. It is the first of its kind; no similar research has been conducted before and the topic of inquiry was spanning wide from the beginning. An explorative approach was necessary to shed light on more or less advanced digital practices in different spatial planning contexts. However, we also present an early systematisation of general concepts.

What is the digitisation of plans and plan data?

In DIGIPLAN, we studied digital plans and plan data across different planning systems in Europe. Although we touch upon different planning instruments in DIGIPLAN, our focus is on **municipal plans**, e.g., land use or zoning plans. Municipal planning instruments are also the most commonly digitised planning instruments (Figure 1). Typically, there is a supervisory authority at the regional or national level and a desire to make plans and plan data accessible on a joint portal.

Figure 1
Share of planning instruments covered in the digital portals



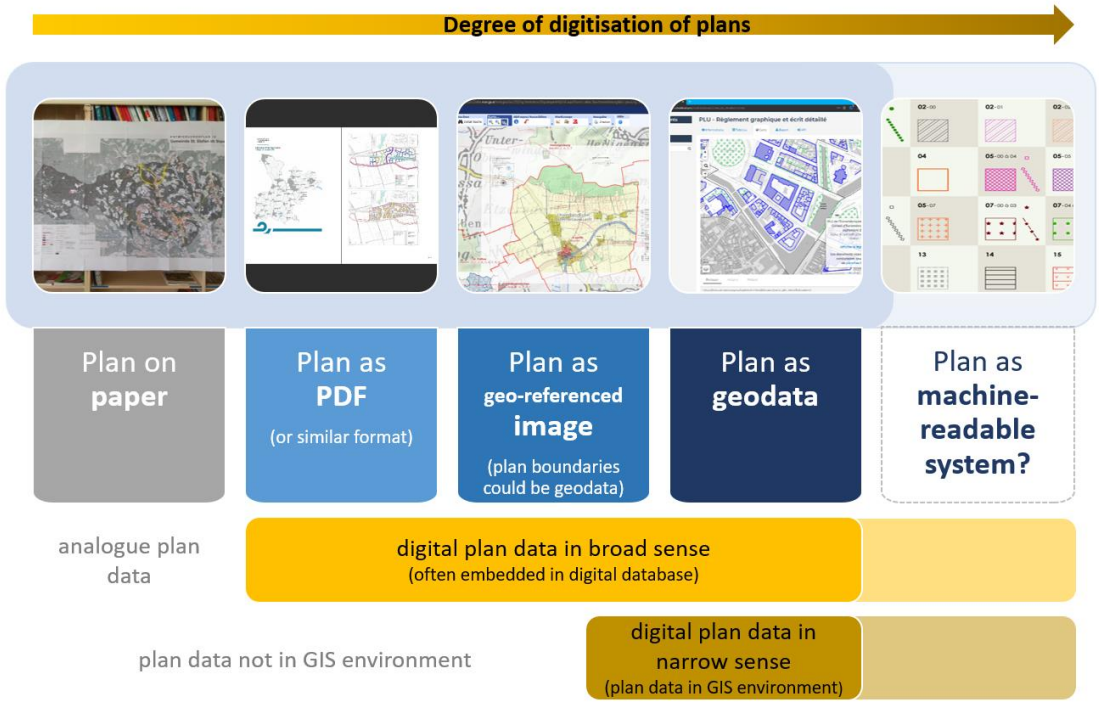
Data from 15 cases. Read more in DIGIPLAN Final report section 2.1 and Thematic Practice Paper 2 "What are the drivers of the digitisation of plan data and what is its purpose?", DIGIPLAN Annex 1

In the past decade, many European countries have taken significant **steps towards establishing digital plan registers** and digitising spatial planning processes. In particular, formal planning processes are being

documented digitally and standardised. Data includes information on the planning process and the planning content.

In a broad sense, digital plan data includes all digital information (typically available online) related to a plan. This can include simple PDFs and images, georeferenced information and geodata or even highly structured, machine-readable regulations (Figure 2). In a narrow sense, we **define digital plan data** as a specific form of geodata. It is issued by spatial planning authorities and describes regulations and intentions, rights to the use of land (or space in more general) now and in the future, and it includes metadata on, e.g., the validity period. A similar definition is used by the EU initiative INSPIRE for the theme "Planned Land Use".

Figure 2
Degree of digitisation of plans



Note: The stage to the right, plans as machine-readable system, is faded because we have not found any plan or plan data working like that yet. This was mentioned as a possible future in some cases.
Read more in Thematic Practice Paper 1 "What is digital plan data?", DIGIPLAN Annex 1

However, even if we can agree on a narrow definition, digital plan data can include a **wide variety of forms and formats**. The data may be available as raster (e.g., georeferenced images) or vector (scalable). Different parts of a plan may be available in different technical formats. Moreover, the procedural role and the legal status of digital plan data ranges from simple digital representations of analogue plans, which are only for information purposes, to fully digital plans, which are the sole legally binding plans. Table 1 summarises various characteristics of digital plan data and the digitisation of plans, including e.g. standards, formats, access, legal status, participatory elements or organisation and communication issues.

The digitisation of plan data is not new. It began to emerge with the availability of GIS software with graphical user interfaces in the 1990s and innovative towns and individuals, who began to explore its potential. However, in the latest development, digital plan data has become **embedded within established planning practices**. Digital plans are becoming mainstream in planning processes and plan data has been integrated with other sectors and is now used beyond the traditional planning sphere, becoming part of a wider 'integrated digital governance'.

Table 1
Characterising the digitisation of plans and plan data

Topic	Different characteristics*
Standards	• Mainly technical, rather inclusive standards (from a planning point of view) • More strict digital plan standards across administrations
Data collection method	• Central scanning and digitising of analogue plans • Plan data (file) exchange by e-mail • Specific data upload, incl. automatic technical checks • Data creation directly in a geoportal (e.g., by drawing and snapping or choosing existing parcels)
Data format	• Scans (raster images) of plans • PDF with plans as images • Raster ring method data (boundaries of a plan as vector, the remainder as a georeferenced image) • Vector data of some or all features of a plan
Time dimension	• Current regulation • Information on plans in progress, plans under revisions • Historical plan data
Accessibility	• Distinction of accessibility for different user groups (e.g., internal/external) • Viewing only • Analysis or manipulation functions • Restricted download of data • Free download • Metadata listings, participation in open data initiatives
Geographical coverage	• None (only data model) • pilot cases • transition towards completeness (e.g., covering all municipalities)
Relationship to analogue data	• Digital plan data represents some aspects of the analogue plans • Parallel systems exist (common in the transition period) • There is no analogue plan data, but prints and excerpts are possible.
Legal status	• Only for information purposes • De facto binding (e.g. because they are widely used in formal planning processes) • Legally binding PDF • Legally binding plan data • Both analogue and digital plans are binding
E-participation	• Information about plan proposals sent automatically to stakeholders (e.g., authorities, NGOs, property owners) • Electronic submission of comments • Map-based commenting • Integration of other participation tools in plan portals (online debating, discussions, wikis, integration of social media, etc.)
Collaboration / organisation	• Stand-alone approaches by interested authorities • Voluntary collaborations • Digitisation and data exchange required by law • Length of transition periods
Education / skills / communication	• Parallel test systems (sandboxes) for (future) professionals • Complexity of systems (and interfaces) - the necessity of certain skills to handle digital plans and plan data (for planners and non-planners) • Collaboration for the development of digital plans and plan data • Regular communication and debates on the digitalisation of plans and plan data

DIGITAL PLANS AND PLAN DATA

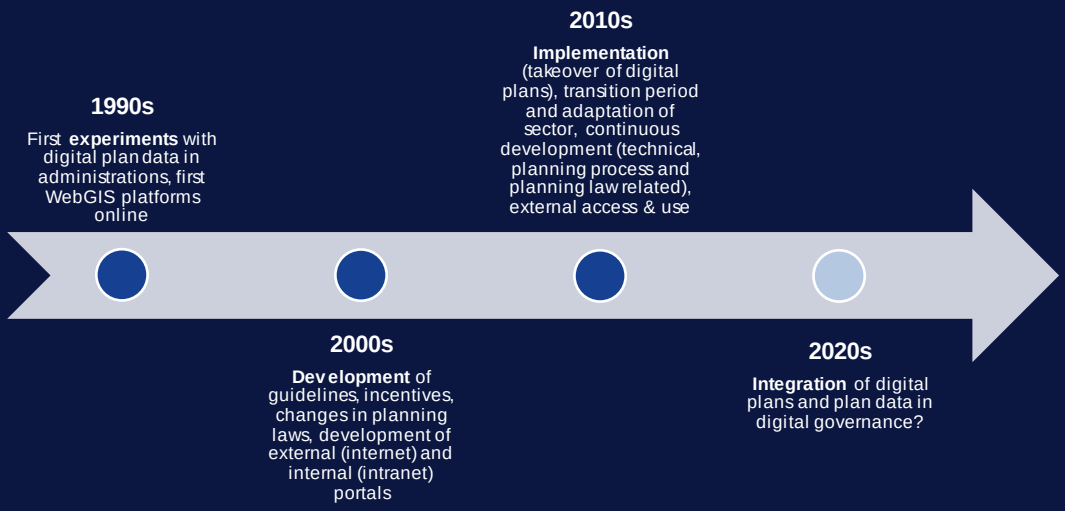
Phases of digitalisation

We can identify four, common phases of the digitisation of plans and plan data in recent decades. Firstly, **experiments** with digital plan data in administrations started in the 1990s. In the second half of the 1990s, the first WebGIS platforms went online, some of which also included plan data.

In the 2000s, the first **guidelines for data formats were developed**, often in a voluntary collaboration between different planning authorities. Subsequently, guidelines and standards were implemented formally in planning laws. The digital portals were developed further for internal and external use.

The past ten years can be considered as the **implementation** phase. Laws are in place, but a transition period for the takeover of data is necessary. In parallel, the development of the portals continued with improved plan data submission methods, new functions for users, or the adaptation to planning processes (or also the other way round).

The latest phase can be called **integration**. Digital plans and plan data are becoming increasingly integrated in digital administration and governance. Plan data is available on open geoportals and, as quality and accessibility improve, is also being increasingly used by external users.



Read more in Thematic Practice Paper 1 "What is digital plan data?", DIGIPLAN Annex 1.

What is the state of digitisation in Europe?

There is great diversity regarding the level of digitisation in the field of spatial planning in Europe. DIGIPLAN only provides a snapshot of the status quo and processes in selected countries. To the best of our knowledge, no such study has been conducted previously. We applied an **explorative approach**, describing current states and development paths, discussing terms and drawing early lessons from the empirical material.

Nevertheless, it is clear that many European countries and regions, e.g. in federal states, are **collecting digital plan data** and establishing registers. Some collect and even scan plans themselves, others require plans or certain data to be uploaded by local planning authorities, while still others have implemented a completely digital plan processing system (see Annex 2, fact sheets).

The desire to provide harmonised and standardised plan data on a digital and open platform among spatial planning actors is especially clear from 2010 onwards (see case reports Annexes 3-8). There is often a difference between the **plan data that is accessible** online to the public and the data that is available internally or to restricted user groups. Such differences include how the data can be accessed (e.g., only viewing possible, not download), its format (vectorised or image) and the type of information (e.g., draft plans only available to restricted users). In this respect, **INSPIRE** has fostered open data (and metadata), but has not necessarily driven digitisation in the cases. However, differences have become clearer, which puts pressure on those lagging behind.

DIGITAL PLANS AND PLAN DATA

Digitisation in 15 countries

The qualitative exploration of the digitsation of plans and plan data in 15 European countries highlighted that:

/// There has been an **eagerness** among spatial planning actors **to provide** harmonised and standardised **plan data** on a digital and open platform in the past 10 years.•

/// Digitisation has **improved workflows** and planning practices, thereby contributing to cost-reduction.

/// The way in which countries have organised and published digital plan data differs, which **reflects** the **diversity of spatial planning traditions** and competences.

/// Digital plan data that has been harmonised and **standardised facilitates innovative** practises.

/// Foreseen future developments in the digitalisation of plan data may be affected by a reordering of **priorities** and possible budget restrictions as a result of the COVID-19 pandemic.

Read more in chapter 2 of the DIGIPLAN final report and Thematic Practice Paper 2 "What are the drivers of the digitisation of plan data and what is its purpose?", DIGPLAN Annex 1.

In terms of the role of digital plans or plan data, our cases demonstrate the breadth of the diversity. In the majority of countries, **digital plan data (geodata) is only a representation** of the actual binding analogue plan, which is published in the town hall. The representation can also include more or less details of the plan, and is only for information purposes, highlighted with corresponding disclaimers in the online portals. Some cases operate digital and analogue versions in parallel, with corresponding mechanisms for comparison in the administration (some cantons in Switzerland and some states in Austria). The actual **digital plan data is legally binding** in only a few cases (the Netherlands, Portugal). In some cases, the PDF version of a plan is binding (Denmark, Tyrol/Austria). In practice, however, digital plan data is often used as if it were legally binding (de facto) in many cases when the quality of the data is high and it is easily accessible.

Differences in the organisation and publication of digital plan data reflect **differences in spatial planning traditions and competences.** This refers, for example, to the 'division of power': When a supervisory authority exists, it might demand access to digital plan data when inspecting plans. Furthermore, the existence of a legally binding symbology for plans provides a different starting point for digitisation than if plan requirements and standards are more loosely defined.

In general, planning authorities apply **many digital tools in formal planning process** to support everyday practice. These include data repositories, access platforms and management systems, online communication and dissemination platforms, open governance data services, etc.

DIGITAL PLANS AND PLAN DATA

Why legally binding digital plans?

Legally binding digital plans implemented with a central portal and data infrastructure will mean there will be a clear entry point for accessing plan data. This does not exclude the possibility of embedding plan data in other portals, but where to find legally binding data from all planning authorities will be clear. At the same time, it will provide security for users and also a clear responsibility for keeping the data up-to-date. A major advantage is also an increase in transparency and accessibility to the plan process as when the process becomes digital, comments, objections, changes, etc., will be documented. Finally, the 'legalisation' of digital plans might lead to similar processes and data structures, which in turn will increase accessibility across the planning system.

Read more in Thematic Practice Paper 4 "Are digital plansand plan data legally binding?", DIGIPLAN Annex 1.

How does planning practice change?

For planning authorities, digital plans and plan data have primarily **increased the efficiency** (i.e., reduced the time needed for the same task) of workflows. Even though systems are in constant development, the availability of digital plan data was mentioned many times as being a huge advantage in formal plan processes compared to the time when only analogue data was available. Furthermore, in cases where digital and analogue plans are handled in parallel, and new tasks regarding comparison need to be introduced, it was seen as an advantage as at least some of work could be based on digital data.

Digital plan data and associated standards and data models enable **data exchange**. This means, for example, closer integration with the building sector, nature management, infrastructure, and service provision. The standardised data also improves the potential for analysis and innovative practices, e.g., following up on plan implementation. Many planning authorities are now starting to conduct more **structured analyses** and are still exploring the potential. In general, the digital format allows questions to be asked of the data, which had not been considered when the data was produced. Open and structured data supports innovation in a wide sense. However, this poses the risk that plan data is used out of context. Certain plan regulations only make sense when seen in a bigger picture, such as a regional setting. An analogue plan can present the necessary context. Digital plans and plan data can be disaggregated, divided, and split without limitations.

Nevertheless, this also allows users, e.g., citizens, to obtain the **exact information** they need. Many plan data portals allow users to select and analyse plan data, create excerpts, or download geodata, often additionally listed in open data portals. This increases **transparency** and **involvement** in planning matters, especially of professional interest or lobby groups, but it also limits access for potential users when technical barriers are too high. In this respect, digital plans and plan data can support participatory processes when used appropriately. The formal **participatory** processes related to a plan (**official hearing**) have, in some cases, already been integrated into digital plan data platforms.

The use of digital plans and plan data requires **new skills** for plan making and an adaptation of technology in planning authorities and planning consultancies. The introduction of new technologies and systems is not always seen as a contribution to making planning on the ground easier or better. In particular, when system development has been driven by national/regional authorities or policy domains that are not directly connected to planning (e.g., because of a general requirement in public administration), it can cause long transition periods or even result in a dysfunctional system.

With digitisation, planners need to provide **highly detailed data, which is** often much more detailed than what was necessary for the equivalent analogue plan with a fixed scale and no possibility to overlay with other data. Requirements for **plan accuracy** are changing, even if not stated in planning laws. Issues of scale, fuzziness, ambiguity, context, accessibility, and legal status also illustrate that traditional plans were not designed for a digital format. In some cases, planning processes have been adapted to **new digital**

routines. Nevertheless, not all planning instruments (especially those of a more visionary or strategic character) are digitised in the same degree as, e.g., municipal land use plans, while some, such as the Danish maritime spatial plan, are set up from scratch in a digital format.

DIGITAL PLANS AND PLAN DATA

Innovation in planning processes and technology

With the implementation of digital process chains, it is possible to reuse the same plan data multiple times. This saves time and resources as data is captured only once and information loss during transformations into different formats can be prevented. The benefits of digital process chains will only become apparent once they have been fully implemented. For example, planning can only be evaluated efficiently, if the plan data is used all the way through to implementation. Digitalisation may also make workplaces more attractive due to more innovative working practices.

The transparency of plan data has already been increased in many places by publishing the digital plan data on the Internet. This has the advantage that the data can be viewed by anyone at any time. However, transparency in planning processes can still be increased by presenting opportunities for participation more clearly via the Internet and by making decision processes transparent.

Technological progress holds much potential for digital planning practice. For example, 3D visualisations are still rarely used in planning processes. The ability to create 3D representations of plans, buildings and entire cities has a lot of potential. Firstly, it means that stakeholders do not have to rely as much on their imagination as they can see the planned changes in front of them in 3D, which supports the discussions in participatory processes. Secondly, these visualisations can be used to evaluate plans to identify unused building potential, which may result in the plans be altered subsequently.

Read more in Thematic Practice Paper 5 “Future technical developments and opportunities”, DIGIPLAN Annex 1

Policy recommendations

DIGIPLAN provides a wide range of recommendations, formulated in each thematic paper as well as for each case study. To structure the recommendations in this summary, we use three ideas which are very often named as the major purposes or drives for digitising plans, but also digitalisation in more general: **Improving efficiency, enabling innovation and increasing transparency.** The recommendations are based on the overview of 15 countries (final report chapter 2 and Annex 2), the case work (final report section 3 and Annex 3-8) as well as the thematic work (final report section 4 and Annex 1).

Digitise to improve efficiency

#01 Know your planning system

The digitisation of the public sector, planning systems and planning practice is ongoing and evolves with technology. To anticipate the path of digitisation, it is important to understand the planning system and the historical roots of planning instruments. It is an important condition to know your planning system for improving efficiency. The potential of digitisation varies, and it faces different challenges, which depend on the division of power in a planning system, the level of the planning authority, the regulations on plan content as well as the wider legal system.

#02 Develop standards

A good starting point for the digitisation of plans and plan data is to define standards and data models, establish metadata, and develop technical requirements for digital plan data that work across the whole country (planning system). Digitisation offers many new opportunities and advantages. To ensure future use and continued development, establishing a comprehensive data structure is crucial. A coordinated data review, probably shared between stakeholders, may be necessary. In Germany, XPlanung is an example of a feasible approach for creating digitalisation standards in spatial planning, particularly in a federal country. In France, a multi-stakeholder council develops joint standards.

#03 Ensure compatibility between plans and plan data / standards – address actual needs

If plans are not fully digital yet, a challenge in the development of digital plan data can be the compatibility and comparability between the digital plan data and the legally binding plans, e.g. in the form of pdfs, as is the case in Denmark. The data models for reporting the digital plan data do not always correspond with the decrees and explanatory texts of the legally binding plans themselves. As a result, the digitised plan data can be different from what has been politically adopted, as there is a translation of the plans to the available data model taking place. In Norway, digital plan data is strongly formatted by their own standard and the need for harmonization of regulatory planning instruments. At stake here is the scope of digitalisation, whether "everything" needs to be digital, or whether one should focus on a production and exchange of more targeted and relevant data according to the topic of a decision. This may reduce the amount of information needed, and the costs related to its production and consumption.

#04 Reduce workload for plan administration

Digital plan data can reduce workload in the everyday administration of plans and plan regulations. E.g. the possibility to retrieve planning excerpts, helped to reduce the workload and costs and speeds up the planning processes in Luxembourg.

#05 Digitisation makes plans easier accessible and improves collaboration

In general, the study shows that digital plans and plan data are seen as a big advantage in terms of being accessible online to everybody, allowing to use the data for various purposes. Digital plans and plan data also seem to improve exchange between authorities. This is further boosted, when digital plans are legally binding or are at least de facto used as if they were the original data.

#06 Develop digital process chains to facilitate cooperation

Digital process chains can be developed to increase efficiency and coherence of various administrative processes. The German standards of XPlanung and XBau enable the link between strategic planning, land-use planning, architectural design, construction, and monitoring of the built environment. If they can be pursued together, they foster unprecedented synergies in the planning and construction context.

#07 Use digitisation to improve flexibility in the planning process

During the COVID-19 crisis, planning departments with a high degree of digitalisation had an advantage in regards of workflows, especially when people have to work from home and need to have access to plans. Furthermore, it also highlighted the problem with required building site meetings during the lockdown. Even though, public life opens up again, digital processes could improve such meetings.

#08 A clear strategy (and funding) to implement efficiency gains

Development of digitisation is often slowed due to missing financial back up, massive tasks related to digitization, and prioritisation. It is recommended to have clear strategies instead of focusing on short-term developments.

#09 Go for fully digital plan data

Many cases do not implement fully digital plans, but e.g. use the Raster-Ring approach (Germany) or have parallel systems, with analogue and digital plans (Austria). This might be a feasible solution for the transition, but fully digital plan data (as e.g. in the Netherlands) offer better opportunities to satisfy future needs of spatial planning.

#10 Address digitisation in rural areas

Our study indicates that smaller and/or rural municipalities, which are not part of metropolitan or intercommunal cooperations lack behind in some countries (France, Germany). This gap might even widen over time, as digitisation, so far, seems to get more complex with more standards, more data, more portals and more demands. This makes it difficult to catch up for those lacking behind. A review of the standards, so they fit also smaller authorities could be considered. Also, the national or regional level could help digitising plan data in less resourceful municipalities, e.g. by providing funds or expertise.

Digitise to enable innovation

#11 Ensure accessibility to digital plans and plan data

Accessibility to plan data is key to facilitate business and open to new actors; e.g. real estate, building sector but also for citizens. Digital plans enables municipalities to reach a greater number of citizens and in addition, the digital plans make it easier for citizens to find the right planning information.

#12 Can citizens or the private sector be more active involved in the development?

The current plan data governance structures are often closed around public authorities. While being cautious with influence of non-elected bodies in public administration, it could still be beneficial to consider a more active involvement of citizens or the private sector in the development of digital plans and plan data, and not only see them as data consumers. Citizens and the private sector have insights from specific places, practices or professions and have valuable knowledge to share. Involving them could contribute to make plans and the plan portals more useful to a wider audience and enable innovative practices (see e.g. Denmark or France).

#13 Share knowledge and examples of digital plans and plan data use, national and international

The example of France showed that there are strong national standardisation tendencies, but at the same time an enormous activity at the local level. Cities can be very advanced in digital plan data. Sharing these and similar experiences in the community can inspire good practice and accelerate digitisation. Furthermore, the project work during DIGIPLAN, e.g. in the interviews or the workshops we participated, also showed the high interest in sharing knowledge internationally.

#14 Make use of digital plan data to evaluate planning

The steady of increase of building land is a recurring topic in the public debate. Digital plan data can help to get an overview as well as to conduct analysis on what, where and when new building land is zoned. The use of this data can provide the highly necessary evidence to base future spatial planning policy on. In Switzerland and Austria first analysis have been done.

#15 Consider a better monitoring of the use

At the portals and data providers, very often, knowledge on data use is missing. Typically, general online statistics are available, but it is unclear who is using what for which purpose. A more qualitative monitoring, getting in touch with users directly, is important to keep up the relevance of the portals and data and ensure that they actually fulfil their purpose. Not least this is important when digital plans should have the status of being legally binding. Regular workshops and networks as organised in Denmark or France, although mainly focused on experts, might be a first step.

#16 Parallel systems as a compromise for transition

Having parallel systems in place, whereby an analogue version of a plan co-exists with a digital version (legally binding or not) may be a practical compromise during transition periods (e.g. Austria). Even if this means that redundancies will occur, it can help to ensure a smoother transition, while at the same time reaping the benefits related to accessibility, analytical insights and an increase in skills internally and in the wider planning community.

#17 Adapt the planning system

It may prove necessary to adapt existing plan instruments so that they are compatible with digitisation. Such adaptations range from the need to make changes to aspects of the plan layout such as symbologies and annotations, to regulations that stipulate how plans must be published and how they are accessed. At the same time, it is necessary to be aware of the potential to lose plan information when digitising, e.g., losing contextual information when there are no limits to the scale.

#18 European institutions can support exchange, not least in cross-border areas

It is very likely, that in the next few years, digital plan data of rather good quality and detail will be available from all EU member countries. The GeoRhena sub-case showed the need for data exchange between regions of different countries. European institutions such as Eurostat or ESPON can support this also in the area of plan data, especially regarding the data collection and provision as well as the provision of important meta data (e.g. what a certain plan/regulation implies), but also to support knowledge exchange. INSPIRE can be the technical platform to build on.

#19 Support exchange between planning and GIS community and interdisciplinary collaboration

Minimizing the knowledge gap between planners/politicians and GIS-technicians to improve the use of existing plan data and geodata. In general, interdisciplinary communication should be supported. The more information, the better conditions for enabling discussion of land use, because everything has a clear spatial reference.

DIGITAL PLANS AND PLAN DATA

Making digital plan data accessible

It can be a challenge to develop, comply with, and maintain the technical requirements for digital plan data as it requires an extensive and coordinated effort to ensure data quality and accuracy. Even when the technical requirements have been met, delivering the data on time and of sufficient quality can be a difficult. A coordinated data review may be necessary to ensure quality.

Regarding the digital plan portal, a user-friendly interface with intuitive commands and graphic visualisation is necessary to ensure accessibility. While digital plan data has often been a significant improvement for experienced users, some portals can be very complex and confusing for non-experts and there is a possibility that citizens can be overwhelmed by the myriad of digital tools. Consider barriers to availability, such as the requirement to create an account to see or download plan data or the cost of plan data.

Another aspect of the portal is map representation. This is especially important with plans designed at a specific scale or more strategic plans where viewing the plans at different scales is undesirable, as this could lead to misleading conclusions. Furthermore, the possible discrepancy between digital plans and analogue plans can be confusing.

More in Thematic Practice Paper 3 "Who can access digital plan data and does it change involvement?", DIGIPLAN Annex 1.

Digitise to increase transparency

#20 Digital plans can improve transparency regarding current regulations

The transparency aspect regarding the idea of getting tailor-made information on plan regulation for a specific parcel is quite advanced in many cases or also the more general possibility of accessing plan information easily over the net.

#21 Employ digitisation to make plan process visible, not only the final document

The use of digital plans before they get adopted, e.g. in a participation process, is not that spread yet. Most plan data portals document only the current state of plan regulations. Digitisation and new ways of communicating and accessing data and plans could be used to also improve and open up the plan making processes as well as the implementation and evaluation following.

#22 Have the users in mind, provide different entry points and use an open data approach

The digitisation of plans and plan data also involves an increase in complexity. Digital portals often also display a range of data related to, e.g., nature, socio-economics or public services. The joint visualisation is though often not optimal, compared to printed products where a lot of effort is done to increase readability. For users, different entry points to plans and plan data should be considered to reduce complexity. The depth of information, the tools to interact with, or the presentation of data can then be tailor-made for the selected purpose. For example the Danish digital plan platform has been developed further to become easier, more logical, and intuitive regarding both the reporting module for municipalities and the interface for users. In Norway, the importance of local portals has proven to be an important feature of the planning system, at its current state of digitalisation. Besides specific entry points, a general open data approach supports accessibility. This allows innovative use and assures universal access in the future.

#23 Develop the portals collaboratively

The development of digital plans and access portals needs to be conducted in dialogue with all target groups (planners, software producers, municipalities or municipal associations, citizen groups) in order to ensure that the digital plans can actually be used for planning and are not just there because it is technically possible. In many cases, this has been done by formal (e.g. specific councils/conferences) and informal (e.g. workshops) collaborations between different planning authorities and other stakeholders. Informal and voluntary collaboration can play a rather important role to increase later acceptance of new standards, processes, technologies etc. and ensure their relevance.

#24 Digitisation can benefit all levels of governance

Although different drives and purposes in mind, all levels of governance may benefit from digitisation of the planning system. Funding or financing of digitisation therefore needs to account for these wider effects which digitisation.

#25 Enhance communication and participation of stakeholders with digital plan data

Easy access to digital plan data increases their user community, on the one hand. On the other hand, their versatile usability enables communication with various stakeholder groups and supports their involvement in planning processes. For example, the recent open data decisions of the Swiss Federal government underpin this recommendation.

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