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Online building permit procedures in the Netherlands: A European perspective

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ABSTRACT

Electronic customer related services of governments have expanded enormously. In many regulatory domains the use of ICT services has become common property. This applies also to the field of building regulations. This paper focuses on Information Communication Technology applications for processing building permits. The paper presents the initial results from an ongoing research project which will be continued in the future. The main theme of the paper is the state of the art in the Netherlands with regard to online facilities for applying for a building permit. It will address government policy towards online public services in general and towards the electronic handling of building permit applications in particular. Further, the Dutch situation and progress will be compared with those in other European countries. We trace the main trends of eEurope policy with regard to the online availability of public services and analyze the progress European countries have made with the availability of online application facilities for building permission.

Keywords: Building regulations, building permit, ICT, housing quality, e-government

1. INTRODUCTION

Building Regulations and Quality Assurance is one of the research themes at the OTB Research Institute for Housing, Urban and Mobility Studies. We have conducted diverse national and international research projects in this field, concentrating specifically on the different systems of technical building control (e.g. Meijer, F. & Visscher, H. 1998; Meijer, F., Visscher H. & Sheridan, L., 2002; Sheridan, L., Visscher H. & Meijer, F. 2003).

In the course of the next few years we shall be zooming in on the question of how supervision and inspection duties can best be shaped and allocated and how

building regulations can best be enforced. We shall be looking at the development of building inspection procedures (in particular, new ICT applications for processing building permits), examining and evaluating the tools, and exploring the future role of local authority building control. At the same time, we shall focus closely on the objectivity and quality guarantees of government vis-à-vis private inspection. The research programme includes an international comparative analysis of the role of government in the regulation of building and a qualitative and quantitative comparison of building inspection systems.

This paper addresses a small part of this larger whole, namely: Information Communication Technology applications for processing building permits. It reports the initial results from an ongoing research project which will be continued in the future as part of the larger programme, described above. The main theme of this paper is the state of the art in the Netherlands with regard to online facilities for applying for a building permit. It will address government policy towards online services in general and towards building permits in particular. Further, the Dutch situation will be placed in a European perspective. The insights are based on information derived from desk research, literature searches and analyses of the websites of the municipal building authorities in European countries.

The aim of the project is not only to ascertain how far Europe has progressed in digitizing applications for building permits, but also to identify the potential risks and benefits and the success and failure factors. Before this project could begin, it was essential to have an analytical framework which would enable us to draw an international comparison of the status of the online administration of building permits. There is a world of difference between a municipal website that only provides information on permit procedures and one in which applications can be submitted and processed digitally. The research will also focus on this aspect.

The paper is organized as follows: Section 2 sets out the objectives and results so far of the Dutch government's ICT policy on public services in general; Section 3 explains the background situation and the state of the art regarding applications for building permits in the Netherlands; Section 4 traces the main trends of EU policy; Section 5 compares the availability of online application facilities for building permits in Europe, tracing developments and offering comments in the process; and Section 6 presents the discussion and the conclusions.

2. DUTCH PUBLIC SERVICES ONLINE

For several years now the ICT policy of the Dutch government has been geared to promoting and incorporating information and communication technology in public services, the idea being to improve accessibility and speed. This, in turn, would cut down the paperwork and the administrative costs. In recent years various action plans and initiatives have been devised specifically for this purpose.

2.1 Government Action Plans

Since the mid-1990s in particular, a lot of experience has been gained in ICT applications thanks to numerous pilot projects. This formed the basis for a few concrete steps which are defined 'upfront' in the Electronic Government Action Plan (*Actieprogramma Elektronische Overheid*) (Boxtel van, 1999). The aim of this Action Plan is to target the deployment of ICT in such a way that it gives a momentous boost to the quality and service (customer focus), efficiency (cost savings) and effectiveness (reaching the target group) of public services for private citizens and businesses. Three explicit themes are named: good electronic accessibility, improved public services, and better management of internal government operations.

The main pitfalls of public services are that they are supply-driven, the opening times are too restricted, and the processing times are too long. Interactive, digital services would give individuals and businesses assurance that they could communicate with the relevant authorities at any time and place. The government has identified many areas where ICT could be used to improve public services, not least permits and subsidies, and information (Boxtel van, 1999). With ICT it will no longer matter where or when people choose to 'do business'. The Action Plan says that the (one- and two-way) services offered by the government should be so interesting that they prod people into action at home or via public terminals.

The Action Plan proposes that at least 25% of public services be administered electronically by the end of 2002. This target was later raised to 35% for 2003, 25% for 2006 (Remkes, 2003) and 65% for 2007 (Graaf de, 2003).

While higher targets were being consistently set over the years, extra objectives were being formulated at the same time. For example, an extra objective in the 'Contract for the Future' policy paper (*Contract voor de Toekomst*) (Boxtel van, 2000) is that all Dutch municipalities have a website by the end of 2002. In 2003 the Alternative Government Action Plan (*Actieprogramma Andere Overheid*) (Graaf de, 2003) re-affirmed the existing policy and introduced the additional objective of a 25% reduction in administrative costs for private citizens and businesses by 2006, compared with levels in 2002. The nationwide ICT agenda (Brinkhorst, De Graaf & Van der Laan), which appeared in 2004, clearly pursues targets and objectives on a European as well as a national scale: twenty specific public services must be fully interactive by 2005. We shall return to this in Section 4.

2.2 Results: Online developments

Under the auspices of official policy, various state-funded projects have been started in certain domains (e.g. Building & Housing and Care & Welfare). These projects are expected to spread, through a sort of 'ripple' effect, across the entire public sector. Most of them are integrated in current ministerial programmes. For instance, the Building & Housing projects and pilots fall under the Electronic Counter Programme (*Overheidsloket 2000*) of the Ministry of Spatial Planning,

Housing and the Environment (*Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer* / MVRM).

In retrospect, it would be fair to say that the government has achieved good results with its policy so far. In mid-1996 only 5% of all municipalities (30 in absolute terms) had a website; in 1999 this figure had risen to 30%, and at the start of 2003 almost all municipalities were accessible online (Remkes, 2003). So, it appears that the government's aim to manage 25% of public services electronically by the end of 2002 had already been achieved by the end of 2001. In 2003 almost one third of all public services were accessible online to private citizens and businesses alike (Remkes 2003).

Under the *Overheidsloket 2000* Programme almost twenty Building & Housing projects were launched with the aim of improving services to individuals and businesses. Some of these were geared to providing a full-service Building & Housing Counter while others implemented specific aspects of new developments; for example, a demo was compiled for the digital processing of applications for building permits. Exemplars of digital counters and modules were developed so that customers could follow the status of their application. At the moment (autumn, 2004) the Focus-on-Service Programme (*Servicegericht werken*) is being implemented with financial back-up from MVRM. Amongst other things, this programme encompasses projects on digital building regulations. As part of the *Servicegericht werken* Project for Building & Housing a system is being developed which will make regulations and municipal policy available as one web interface. The Digital Dormer Project (*Digitale dakkapel*) has been set up to devise a means which makes it possible to determine via the Internet whether plans for attic conversions meet the required criteria and which documents need to be enclosed with the application form. The research programme also includes the development of a central web server where building permit applications can be submitted and processed. We shall explore this further in the next section.

3. ONLINE BUILDING PERMIT PROCEDURES: THE NETHERLANDS

This section provides a rough sketch of the current situation and the perspective for the immediate future. This is further illustrated in the research report with images of the websites of different municipalities. For the record, it needs to be stressed that, in the Netherlands, the municipalities are responsible for checking out and granting requests for building permits.

3.1 Current situation: information supply and downloading of forms

In 1999 Enschede was the first Dutch municipality to open an electronic counter on the Internet. Since then, it has become possible to access the Local Authority Building Control Departments of almost all Dutch municipalities online. The main purpose of online municipal services is to cut down the queues at municipal offices. The websites of most Dutch municipalities provide information on how to apply for a building permit and offer facilities for downloading forms and pamphlets. The website 'procedure' is basically the same for most municipalities.

Once the user has logged in, he is led to the Local Authority Building Control Department. The websites provide or refer to information on all aspects of the application procedure, such as the Building Decree (*Bouwbesluit*), the terms and conditions, the municipal regulations, the various types of permit, etc. Not until he arrives at 'the product' (building permit) does the user decide whether a permit is needed. Often, one click will then take him to the MVRM website, where a question-and-answer procedure will determine the kind of permit that is required. He can then download the application form from the municipal and/or the MVRM website and print it out. Other forms and pamphlets can also be 'collected' on municipal websites

Nowhere in the Netherlands is it possible to actually submit a building permit application electronically. Some municipalities do offer a function for checking out the status and progress of an application: information on the processing of building permit applications is available in the back office and is made publicly accessible via the Internet. To date, this is as far as Dutch municipalities have progressed in the digitization of building permit applications. That said, work has been going on for several years now to realize a system for the online submission of applications. These developments have been combined in the project for the Central Server for Building Permit Applications.

3.2 Towards a complete online permit procedure

The aim of the project for the Central Server for Building Permit Applications (started in 2003) is to realize a complete online application and assessment procedure for building permits (Oldenhuizing & Hoogwout, 2004). Around fourteen large and medium-sized Dutch municipalities are involved in the project along with the Netherlands Association of Building Control Departments.

3.2.1 Why online?

First, national and EU policy (see Sections 2 & 4) is geared to improving services and easing the burden on private citizens and businesses. An electronic counter is more or less essential in order to achieve this.

Second, online services fit in with current practices. Professional applicants usually prepare their applications electronically. Municipal assessment and regulatory processes have traditionally been paper-based. So, people have to switch backwards and forwards from analogue to digital during the submission and assessment process. Large-scale requests can soon saddle the applicants with additional costs, anything from a few hundred to even several thousand euros (Te Velde, 2003). Meantime, better access facilities and opportunities for use are creating a growing need among municipalities for electronic building files. A central server could cut the costs for the applicants and, at the same time, solve a municipal problem.

The municipalities and the building sector could also realize substantial direct savings. If 40% of the applications were submitted online, this would cut the

applicants' costs by at least € 30 million. Municipalities could realize gross annual savings (on personnel costs and archive space) of € 20 million (Te Velde, 2003). Obviously, the costs of the central server must then be deducted from these savings. There would also be indirect benefits for the municipalities and applicants. The quality of the applications would improve (the software would filter out the errors). The central server could easily be adapted to reflect any changes to national policy and it could be linked to and used by other municipal services and departments. The processing times could be speeded up and convenience and transparency would improve.

The municipalities have good experience of collective projects and the network of LABC Departments is still expanding. In short, the initiative-takers expect great things from the central server.

3.2.2 How does it work?

The idea is for municipalities to enter a contract with the central server organization. They will pay a basic fee and a variable fee over and above, depending on the number of applications. The server organization must take the form of non-profit-making partnerships between municipalities and other authorities. Municipalities do not want to be dependent on one commercial provider. Potential users may be scared off by the lack of clarity about what happens to the data and services if the server is managed commercially.

The server website provides background information and links to specific information on the site of the municipality and MVRM. Applicants can upload an application via the Internet module of their own municipality. The application can be checked for completeness and support can be obtained via a help function. The central server then sends the application to the municipality. The municipality decides who has access to the file and imports it into its own registration system in the back office. Confirmation of receipt is sent automatically to the applicant. The municipality checks that the application is complete and starts the assessment. Authorized assessors can access (parts of) the file plans and other documents can be studied online, and measurements can be taken. The assessors can add 'layers' of commentary to the file. During the process the applicant can track the progress of the application. The decision is 'loaded' in the file and the applicant is automatically notified. The building inspector can, if he wishes, consult the file on-site via an online connection and can add information/documents.

The feasibility study is now complete, and at the moment (October 2004), municipalities are being invited to participate in the project. According to the feasibility study (Te Velde, 2003), over 40% of professional applicants will submit their applications electronically as soon as this becomes possible. The others will wait and see how things pan out and will join in if the system works well and/or if it delivers significant savings in time and money. The municipalities are more hesitant. Seventy-five percent have said that they are not yet ready for a fully digital process and have few ambitions in this field (Te Velde 2003). Even so, 40%

say that they are, in theory, interested in the new service. It appears therefore that the prospects are good, and actual implementation is merely a question of time.

4. EUROPEAN PUBLIC SERVICES ONLINE

We shall now discuss the European Action Plans and the progress which Europe is making in the online availability of public services.

4.1 European Action Plans

Key documents here are the eEurope 2002 Action Plan, which has been further strengthened by the eEurope 2005 Action Plan (Commission of the European Communities, 2002a and b). The overall objective of eEurope is to bring Europe online as soon as possible. It is the intention that, by 2005, Europe will have modern online public services and a dynamic ebusiness environment. To realize this it is essential to make broadband widely available at competitive prices and to have a secure information infrastructure. The Action Plan comprises several (interlinked) tools for attaining the targets. These tools consist of legislation at national and European level and the sharing of experience, good practices and demonstration projects, as well as the lessons from failures. Policy measures will be monitored and steered by eEurope benchmarking, the ultimate aim being to help the member states achieve the objectives of the Action Plan. A list of twenty basic public services has been drawn up for the fifteen 'original' member states plus Norway, Iceland and Switzerland. Private citizens are the target group for twelve of these services and businesses are the target group for eight. The indicators cover different domains, including citizen access to and use of the Internet, business access to and use of ICT, Internet access costs, e-government, e-learning, ehealth, buying and selling on-line and e-business readiness. The progress of these twenty basic public services has been monitored annually since 2000 (Cap Gemini, Ernst and Young/CGE&Y, 2004). The next section traces the developments since this date. The EU documents are unclear about whether the aim to realize full online services for these twenty basic products by 2005 is fixed. The nationwide ICT agenda of the Dutch government (see Section 2.1) seems to suggest that this is the case.

4.2 Results: online availability of EU public services

The policy indicator for measuring progress has since been changed by the EU from the 'percentage available online' (eEurope 2002) to the 'number fully available on-line' (eEurope 2005). A five-stage general framework was defined to measure the eEurope 2002 indicator on a scale of 0 – (no – relevant – website) through 4 (full electronic case handling). The average score of a service is mathematically converted into an overall percentage of online sophistication, ranging from Stage 0 (0-24%) through Stage 4 (100%). The online availability (or so-called 'sophistication') is determined by the extent to which a service can be provided electronically. In the case of the eEurope 2005 indicator, 'not fully' and 'fully' available online were added to this framework.

The benchmarking scores show that, in 2003, the overall average (reference month October) was 66% for the twenty public services in the eighteen countries. During the past two years, the online development of public services in Europe has improved by 22 percentage points. The online sophistication of the twenty public services is farthest advanced in Sweden (87%). The Netherlands scores around the European average for online sophistication. The growth in electronic public services in the Netherlands is therefore clearly visible in the European score as well. After the first benchmark in October 2001, the Netherlands increased its score by 22%, thus becoming one of the fastest developers in Europe (CGE&Y, 2004). This score has already surpassed the target of 65% which the government had set for 2007 (see also Section 2). However, the number of services in the European system is far lower than in the Dutch system. What is more, they are also relatively easier to create online. On the basis of the 'fully available online' indicator, the 2003 measurement resulted in an average score of 42% for the twenty public services in the eighteen countries. Over the past two years, the 'fully available online' development of public services in Europe has improved by 25 percentage points. Denmark has the highest score (72%) for services that offer full electronic case handling. The Netherlands is trailing far behind, with slightly more than 20% of the twenty services available online.

The benchmarking scores reflect progress across the entire spectrum. However, it still very much remains to be seen whether all twenty services will actually be fully available online in 2005. One of the benchmarked services is the application procedure for building permits. We shall explore this further in the next section.

5. ONLINE BUILDING PERMIT PROCEDURES: EUROPE

One of the products in the European benchmarking programme is the building permit procedure. CGE&Y have defined a five-stage framework to measure and compare the results. Online availability (or 'sophistication') is determined by the extent to which the service can be provided electronically:

- No – relevant – publicly accessible website (score: 0-24%).
- The information for starting a procedure is available on-line (score 25-49%).
- One-way interaction: paper forms can be downloaded (score 50-74%).
- Two-way interaction: electronic intake is possible (score: 75%-99%).
- The website enables full electronic case handling (score: 100%).

Table 2 shows the benchmarking scores for building permit procedures. Please note that the percentages have been copied from a bar chart.

It appears from the data submitted by CGE&Y that Ireland and France led the field in 2003 while the Netherlands scored reasonably high at 50%. The Netherlands is one of the fast developers alongside France and Austria, but the 50% score seems somewhat low in the light of the current situation as described above. Forms can be downloaded from the websites of most Dutch municipalities and a lot of information can be accessed electronically. It is also possible in some cases to track the progress of the application (status information). Hence, so far the Netherlands

is in Stage 2, which raises the question of why the score is 50% and not, say, 60% or 70%. One possible explanation is that CGE&Y is describing the situation in October 2003 and we are now a year farther. But this table contains other remarkable information as well. The scores for Norway and Finland are far lower in 2003 than in 2002. The score for Greece in 2002/3 has almost halved, compared with 2001. So, just how reliable is this data? The next section provides an overall impression of the state of affairs in Ireland and France (the leaders) on the basis of (brief) supplementary research and in a country that we feel is in an unexpectedly low position (United Kingdom).

Table 2: Scores for the public service ‘building permit procedures’ (CGE&Y, 2004)

Country	2003	2002	2001
Ireland	100	100	88
France	75	53	50
Denmark	51	50	39
Netherlands	50	30	13
Norway	50	57	50
Austria	50	35	18
Switzerland	49	43	-
Sweden	45	43	32
Belgium	37	38	32
Greece	28	27	51
Finland	28	36	20
Portugal	26	27	26
United Kingdom	23	24	12
Germany	12	8	7
Luxembourg	11	10	7
Iceland	8	11	-
Spain	6	5	1
Italy	5	5	2

4.5.1Ireland

In Ireland there is no such thing as a ‘building permit’. The inspection process of the Building Control Authority is geared to encouraging compliance and deterring non-compliance, and is secondary to the primary legal responsibility for compliance on the part of designers, builders and owners. This system differs significantly from building control regimes elsewhere in Europe and the western world, where either local authority approval and/or certification systems are in use.

Ireland applies a system of planning permission, commencement notices and fire safety certificates. Within the framework of the Government Action Plan for the Information Society in Ireland, goals have been defined for online access to planning application and development control processes, including commencement notices. At present (2004), online inquiry facilities are available for planning permission in 60% of the major local authorities (Hanafin, 2004). Similar developments are taking place in commencement notices and fire safety certificates. It is possible to download forms and information on a large scale. In some municipalities it is also possible to track the (planning) procedure. A full-scale intake, case handling, decision and delivery of a standard procedure to obtain a fire safety certificate via the web is not possible. Ireland seems to have reached the same stage as a country like the Netherlands, so it is unclear how it has come by its 100% (Table 2).

4.5.2 France

Similar questions can be asked about the French score – though to a lesser extent. In France, the acquisition of a building permit for new projects actually starts with planning permission from the local authority. A building permit is required for all building work (subject to certain exemptions). Government inspections, which are performed by local services, are very limited and amount to little more than checking the location-dependent regulations, and the dimensions and facilities of the building. Upon completion, the building is inspected to ensure that the work has been carried out under the terms and conditions of the permit. A technical inspection by an inspection agency is legally required for a small category of large-scale constructions. However, not all constructions are subjected to extensive inspection.

In France the websites of most of the municipalities and regions feature detailed information on the building permit procedures. Forms may also be downloaded from many of these sites. Nowhere did we come across facilities for submitting applications electronically. However, given the score of 75% in Table 2, we would have been justified in expecting otherwise.

4.5.3 England & Wales

The low score of the United Kingdom raises a number of questions. One complicating factor here is that England & Wales, Scotland, and Northern Ireland each has its own – albeit similar – system of rules and regulations. So, it is not easy to describe the situation in the whole United Kingdom. We have therefore taken England and Wales as our starting point. In England & Wales planning permission is required for all new buildings and for extensions and alterations that affect the appearance of a building. Normally, planning permission is obtained before an application is submitted for building control.

The websites of many local and regional authorities provide online information about the planning permission and building permit procedures and the functions for downloading forms etc. (DTLR, 2002). Efforts have been underway for some time

now to further digitize the planning permission and building permit process. Again, government policy is the driving force: all local authorities are expected to e-enable their services by 2005. The planning portal where requests for planning permission could be submitted was ready first. More than 180 Local Planning Authorities have signed up to the planning portal (October, 2003). The submit-a-plan-website, where applications for a building permit could be submitted, was launched in April 2003. Some 126 Local Authority Building Control Departments (October 2004) have registered; hence, more than one third of all LABC Departments are in the process of enabling submit-a-plan. The English system seems very similar to the proposed digital server concept in the Netherlands (Section 3.2.2). At the moment, joined-up solutions are being developed for the electronic submission of applications for planning permission and building control. All things considered, it is difficult to figure out why the United Kingdom (e.g. England & Wales) has such a low score of 23% (Table 2).

6. DISCUSSION AND CONCLUSION

European countries have set ambitious goals to improve the online availability of their public services the coming years: in 2007 it must be possible that 65% of the public services can be treated fully electronic (the Netherlands); all local authorities should e-enable all their services by 2005 (England). Without ICT applications these goals can not be reached. Substantial progress has been realized in the Netherlands. More or less all layers of government (central government, provinces and municipalities) and the bulk of businesses and private citizens have Internet access. Many public services are available on line and a growing number of services can be managed via the electronic super highway.

Apart from England & Wales, nowhere else in Europe is it possible to actually submit a building permit application electronically on a large scale. That said, interesting work has been going on (e.g. in The Netherlands) to realize a system for the online submission of applications. There seems to be many advantages of an online submission and approval of a building permit. An online system has positive cost and time effects and enables a further streamlining of procedures. The system eliminates sending multiple paper plans, and it is available around the clock. Local authorities can remove a lot of their paper storage and one electronic archive can be established. Progress of applications can be tracked. Building inspectors will be able to take electronic plans and documents out on-site. Drawings can be viewed on screen and redline comments can be made. Work completed outside of the office can be synchronised with the main system once back in the office.

A nationwide uniform building control system (as is the case in England and the Netherlands) is an important additional factor to facilitate the introduction of online building permit procedure. The same rules apply everywhere (e.g. technical requirements) and the building control authorities work along the same procedures. This enables the development of a central webserver where individual Local Authority Building Control Departments can register. This can offer local authorities more (in)direct advantages. We have however not yet analysed the

effects of the submit-a-plan-website in England. The Central Server in the Netherlands is not implemented, so we do not know if the (theoretical) advantages are paying out in practice. Questions as How safe are the systems? What are the costs for the parties involved? and Are the intended effects actually realised? will be leading in our future research activities.

In order to measure the progress of the online availability of twenty public services in Europe CGE&Y has developed a measurement tool. One of the services measured is the application for a building permission. The online availability is determined by a five stage framework. Starting with stage zero (no online services; score 0-24%) and ending with stage four (full electronic case handling; score 100%). On the whole the measurement tool seems to be a useful instrument to make international comparative assessments with regard to the online availability of the building permission. On the basis of the CGE&Y framework, Ireland (100%) and France (75%) are the European leaders. The Netherlands (with a score of 50%) find themselves just behind Denmark on the fourth place. We wonder however to what extent this data reflects the real situation in the European Union. Ireland and France do not seem to be as far as the benchmarking results suggests. England and the Netherlands on the other hand appear to be a little further than suggested. This can not only be explained by the fact that the benchmark results date from 2003 and we are now a year farther. CGE&Y describes the building permit service as the standard procedure to obtain a building or renovation permission for a personal building. As we have seen there are huge differences in the building control systems of European countries. First of all it has to be determined what services are compared and subsequently what is measured. Ireland does not have a building permit procedure, yet it scores a full 100% on online availability for the application of a building permission. Percentages suggest accuracy and exactness, while the practical situation may be different.

This paper shows the first results from an ongoing research project, which will be continued in the future. Important subjects will be the fine-tuning of the assessment method by which progress can be compared and a nearer analysis of the actual contents and practical effects of the online building permit services.

7. REFERENCES

- Boxtel R. van (Minister for Major Cities and Integration Policy), 1999, *Actieprogramma Elektronische Overheid*, Parliamentary Paper 1998-1999, 26387, no.1, House of Representatives (The Hague, 8-12-1999).
- Boxtel, R. van (Minister for Major Cities and Integration Policy), 2000, *Contract voor de Toekomst; een visie op de elektronische relatie overheid-burger* (The Hague, 19-5-2000).
- Brinkhorst, L., De Graaf, Th. and Van der Laan, M. (Minister of Economic Affairs, Minister for Government Reform & Kingdom Relations, State Secretary for Education, Culture and Science), 2004, *De Rijksbrede ICT-agenda*, House of Representatives, Session 2003-2004, 26 643, no. 47, (The Hague, February).

- CGE&Y (Cap Gemini Ernst & Young), 2004, *Online availability of public services: How does Europe progress?* (Brussels).
- Commission of the European Communities, 2002a, *eEurope 2002 Benchmarking Report*, (Brussels, 5-2-2002).
- Commission of the European Communities, 2002b, *eEurope 2005 an information society for all*, (Brussels 28-5-2002).
- DTLR (Department for Transport, Local Government and the Regions), 2002, *Information Communications Technology in Planning*, (London, February).
- Graaf, Th. de (Minister for Government Reform and Kingdom Relations), 2003, *Actieprogramma Andere Overheid*, House of Representatives, Parliamentary Papers II, 29362, no.1, (The Hague, 1-12-2003).
- Hanafin M. (Minister of State for the Information Society), 2004, *New Connections a strategy to realize the potential of the information society, 2nd Progress Report*, (Dublin, April).
- Meijer, F. & Visscher, H., 1998, *The deregulation of building controls: a comparison of Dutch and other European systems*, In: *Environment and Planning B: Planning and Design*, vol. 25, p. 617-629, (Pion, London).
- Meijer, F., Visscher, H. & Sheridan L., 2002, *Building regulations in Europe part 1, A comparison of the systems of building control in eight European Countries*, (Delft University Press, Delft).
- Oldenhuizing, J. & Hoogwout, M., 2004 *Centrale Server voor Bouwaanvragen*, Vereniging BWT Nederland & n Zenc BV (The Hague, 16-6-2004).
- Remkes, J. (Minister of the Interior and Kingdom Relations), 2003, *Elektronische Overheid eind/voortgangsrapportage 2002*, (The Hague, 15-4-2003).
- Sheridan, L., Visscher, H. & Meijer, F., 2003, *Building regulations in Europe part 2, A comparison of technical requirements in eight European Countries*, (Delft University Press, Delft).
- Te Velde, R., 2003, *Haalbaarheidsstudie Digitale Indiening Bouwvergunningaanvragen, Statistische analyse gegevens marktonderzoek onder aanvragers en gemeenten*, Zenc BV (The Hague, juli).

Websites:

- nl: www.minvrom.nl; www.nu.nl. (Persbericht/11-11-2003);
www.gemeentedelft.info; www.rotterdam.nl;
aanvragen.zoetermeer.nl/adapter.aspx/GenericContent.aspx;
www.groningen.nl; www.platform-digitalettoets.nl;
- ie: www.sdcc.ie (South Dublin County Council); www.limerickcoco.ie (Limerick Fire Prevention & Building Control Section); www.monaghan.ie (Monaghan County Council); www.environ.ie (Guide to the building control system); www.irishstatutebook (Irish Statute Book Database)
- fr: <http://vosdroits.service-public.fr>; www.equipement.gouv.fr;
www.ville-mulhouse.fr
- uk: www.planningportal.gov.uk; www.submitaplan-web.co.uk