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Working Party on the Information Economy

OECD WORKSHOP ON PUBLIC SECTOR INFORMATION: SUMMARY
held on 31 May 2006

Paris, 14-15 December 2006

This document summarises the WPIE workshop on Public Sector Information that was held on 31 May 2006. Other documentation and presentations from the Workshop are available at: http://www.oecd.org/sti/digitalcontent.

The document is circulated for information and background for discussion of future work on Public Sector Information.

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Introduction

1. Knowledge is a source of competitive advantage in the information economy. The public sector is a large producer of knowledge-related content (including data/information, images, film, etc., excluding administrative and e-government content, and personal data). This content has a range of established and potential new commercial and non-commercial uses. Moreover, governments need to ensure that citizens can access cultural heritage and national public content and information. Greater use of public sector information (PSI) through digitisation and the use of ICT is likely to require changes in public sector approaches to PSI and reorganisation of the structure, management, distribution and access to public information. There are further challenges in financing these new approaches and changing budgetary practices to deal with these new challenges.

2. There is broad agreement that more economic analysis and development of metrics of PSI use are necessary. However measuring economic impacts is difficult where efficient access has not yet developed. Overall frameworks for the development and use of public sector information could be an important tool for improving access and increasing use of PSI in parallel with improved analysis (see suggestions for the development of such frameworks are presented separately [see DSTI/ICCP/IE(2006)12]).

Workshop objectives

3. The workshop was designed to review recent work on PSI and assess possible next steps on the basis of: *i*) available economic analysis and metrics of PSI, *ii*) industry examples, and *iii*) government approaches to PSI (see Annex 1 for the Agenda and Annex 2 for a summary of OECD analysis). Next steps include further analytical work and exploration of a possible OECD Recommendation on Public Sector Information (see OECD Programme of Work 2007-2008, Output Area 1.3.1 Digital Economy, Item 2.4. A possible set of ground rules is laid out in Box 1).

4. There were 55 expert participants in the workshop including WPIE delegates, government officials charged with PSI policies, commercial re-users of PSI and academic experts (see Annex 3 for the list of participants). Further information on the workshop, the presentations and information on the OECD Digital Content Project can be found at www.oecd.org/sti/digitalcontent.

Summary by the rapporteur

Paul F. Uhlir, Director, Office of International Scientific and Technical Information Programs, The National Academies, Washington, D.C. US (presented to the WPIE 1 June 2006)

5. The rapporteur stressed the social and economic importance of PSI, pointing out that governments are the largest single producers of information and increasingly become customers of other public data or even private re-use products (cyclical model of the US). There are different practices among OECD countries on an increasingly international issue and an incomplete understanding of the costs and benefits of making PSI available. This is preventing the full exploitation of the potential behind PSI. The issues identified during the workshop are complex and are of a different nature in different fields: economic/financial, social/cultural, organisational/institutional, management, legal/regulatory, technological although some are cross-cutting.

6. Suggestions for OECD activities coming from the workshop include:

- Development of an OECD Recommendation on PSI Principles.
- Development of a methodology for improved monitoring and understanding of the costs and benefits of different models of PSI dissemination, with particular focus on economic and social effects.

Summary of presentations

1. Welcome and introduction by the Chair

2. Secretariat presentation of the main work items from the OECD PSI study

7. The Secretariat (Mr. Vickery) presented OECD analysis of the economic and social benefits of access to PSI and content and suggestions for further analysis. This work provides a taxonomy of PSIC and stylised value chains, analysis of commercial use of PSI and increasing access to public sector content, and identifies policy issues.

8. The following general question was posed: which access, cost, pricing and distribution models maximise economic and other benefits of PSI? What next steps should the OECD undertake? For example:

- An OECD recommendation which could build on elements in the completed study (see also Box 1).
- Further analysis and collection of information on: *i*) the rationale, advantages, disadvantages and effects of different access, cost, pricing and distribution models; *ii*) comparative case studies of PSI commercialisation; *iii*) analysis of impacts of projects to digitise public sector content; *iv*) information on policies for commercial use and improved access, and the impacts and outcomes of these policies; *v*) the permanent mix-up of FOI- and PSI-legislation by governments.

3. Commercial re-use of PSI. Economic analysis and metrics of public sector information

Questions addressed included: What are the rationale, advantages, disadvantages and effects of different access, cost, pricing, charging and distribution models?

Paul Uhlir, Director, Office of International S&T Information Programs, the National Academies (United States)

9. Mr. Uhlir presented the rationale and benefits of open online access to PSI, taking as a starting point the US policy background which informs PSI. There are several strands of policy for placing government-generated data and information in the public domain or under open access conditions online:

Legal

- The public has a right of access to PSI.
- A government entity does not need legal incentives from exclusive property rights to create information.
- Both the activities that the government undertakes and the information produced by it in the course of those activities are a [global] public good.

Ethical

- The public has paid for the production of the information, so it is "owned" by the public.
- The burden of access fees falls disproportionately on those least able to pay.

Political

- Government transparency and accountability are undermined by restricting access to and use of PSI.
- Rights of freedom of expression are compromised by restrictions on re-dissemination of PSI — and a related Constitutional prohibition in the United States against "prior restraint".
- A lack of access to PSI correlates with political repression, corruption.

Socio-economic

- Maximises economic and social returns on public investments in PSI.
- Direct economic value creation.
- Indirect economic potential.
- Positive externalities — especially through network effects — on an exponential basis.
- Direct and indirect social benefits — social welfare, better informed public, education, etc.
- Proprietary and commercial treatment of PSI by government entities produces *de facto* public monopolies with inherent economic inefficiencies, transaction costs (not just access costs), and lost opportunity costs in economy and society.

Scientific

- Promotes interdisciplinary, inter-sector, inter-institutional, and international research.
- Avoids duplication of research and promotes new research and new types of research.
- Reinforces open scientific enquiry and encourages diversity of analysis and opinion.
- Allows for the verification of previous results.
- Enables the testing of new or alternative hypotheses and methods of analysis.
- Supports studies on data collection methods and measurement.
- Facilitates the education of new researchers.
- Enables the exploration of topics not envisioned by the initial investigators.
- Permits the creation of new data sets when data from multiple sources are combined.
- Facilitates transfer of information North <-> South and South <-> South.
- Promotes research capacity building in developing countries.
- Generally helps to maximise the research potential of new digital technologies and networks, thereby providing greater returns from the public investment in research.

10. Mr. Uhlir pointed out that the US federal statutory regime encourages active dissemination of PSI at marginal cost (and no more than incremental cost): OMB Circular A-130, Paperwork Reduction Act

(1995), E-Government Act (2002). The Freedom of Information Act (FOIA) covers remaining PSI not actively disseminated.

11. He cited countervailing polices that may hinder the public right of access to and use of PSI:

- Statutory exemptions to public-domain access and use based on specific national security concerns, the need to protect personal privacy, and to respect confidential information.
- Specific FOIA exemptions.
- Government agencies are not allowed to compete directly with the private sector in providing information products and services, outside their legislative mandate (OMB Circular A-76).
- Government agencies generally must protect the proprietary rights in private-sector information that is made available for government use, unless expressly exempted from such protection based on overriding public interest.
- Boundaries of these restrictions shift over time based on changes to legislation, regulation, policy, and judicial decisions.

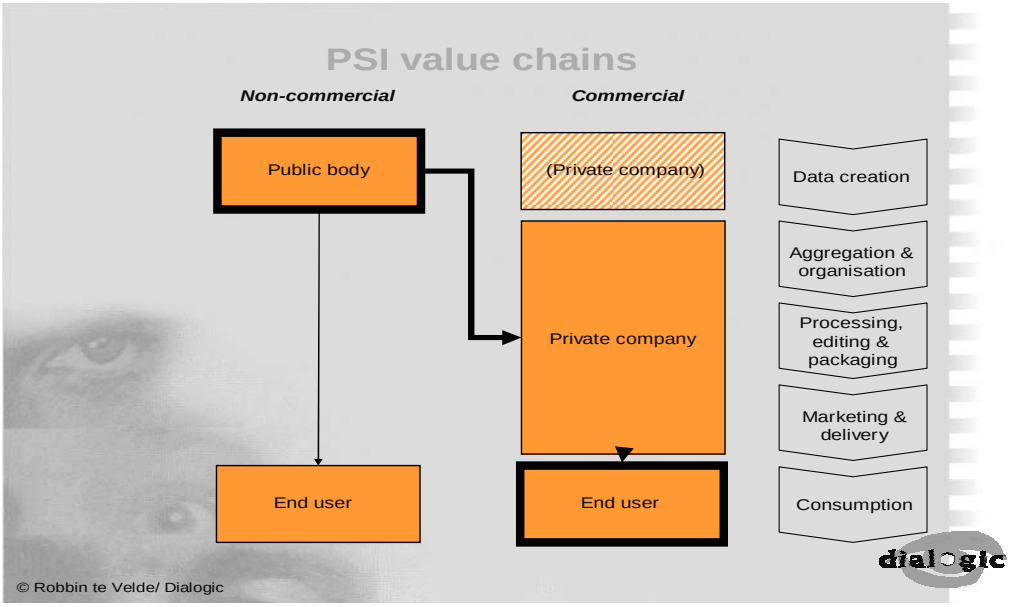
12. Mr. Uhlir pointed to the need for more study on the network effects and positive externalities associated with putting information freely online versus the costs of public institutions withholding this content or making it available on proprietary and restrictive terms. So far little empirical work has been conducted. Case studies and metrics are needed to improve the understanding on these matters. Finally, he stressed that OECD Guidelines on PSI could be useful.

Robbin Te Velde, Senior researcher, Dialogic Innovation & Interaction (Netherlands)

13. In his presentation Mr Te Velde emphasised that governments are major producers of information and that commercial exploitation of this information has considerable value. However, he argued that most of the value added is not in government creation of information but in the subsequent steps in the value chain, and much government-generated information is not available for direct re-use due to quality issues (see stylised value chain in Figure 1). Furthermore, governments also need to provide information to those who request it and must be mindful of freedom of information issues. Overall, although governments produce a great deal of information, much of this needs extra inputs, linking with other data and re-organisation to add value for subsequent re-use.

14. He proposed that PSI is a by-product from the internal functioning of the government. If PSI is directly suitable for commercial exploitation (that is, produced with commercial purposes already in mind) it should already have been in the commercial realm from the beginning.

Figure 1. PSI value chains



15. He argued that it is almost impossible to classify a specific kind of information as either commercial (*e.g.* land use information) or non-commercial (museum material). Non-commercially created data can be commercially reused by a private company (see Figure 1). For most kinds of information, commercial and non-commercial data types co-exist. But these two types of data might need two different governance regimes. Non-commercial data should fall into the 'freedom of information' area. Free access to that data should be granted and it may have a significant welfare effect, but one should not expect significant direct commercial effects.

16. Commercial data, on the other hand, should fall in the realm of regular competition law. The US PSI industry is much more competitive and profitable, ***not*** because of cheaper access to PSI but because it upgrades data quality across the board at minimum costs. Raising data quality lowers the costs in aggregating, organising, editing, and distributing information. The more upstream data quality is improved, the cheaper it is. This is the macro economic rationale for having governments upgrade data quality (*i.e.* the US model) rather than individual private companies doing so.

17. The US - EU differences are not due to pricing. The real story is that the United States has a much better functioning information industry and the US government is much better in creating high quality data. In that respect the PIRA study gets it wrong ("If PSI is freely available, the direct revenue losses could be more than compensated for by increased tax revenues."). The issue is not cheaper access *per se*. Rather, it is about who benefits from profitable high-end markets. In the European Union, it is often public sector bodies behaving in a commercial way and squeezing out private sector competitors some of whom may be potentially highly innovative. It is not about pricing but about competition law. Opening up the market (that is, removing the monopoly position of the pseudo-public re-users) is the real driver, not charging for PSI at marginal costs.

18. Addressing the OECD PSI study Mr. Te Velde made the point that it should not differentiate between different types of PSI. Moreover, he noted that the differentiation between commercial and non-commercial re-use of PSI is not always an obvious one. Given that public bodies can behave in the same way as private ones it may at times be hard to differentiate between public and private entities.

19. In conclusion, Mr. Te Velde briefly described the MEPSIR project he has conducted for the European Commission. The objective of this study was among other things to assess the current size of the European PSI market. Several hundred of public content holders and PSI re-users have been directly asked about their current PSI practices. It quickly became clear that most players had difficulties in assessing the value and the extent of their use of PSI.

Philippe Pierre, PwC Advisory Services (Luxembourg)

20. Philippe Pierre made recommendations for improving the re-use of PSI on the basis of lessons learnt as part of the ePSINet project (2002-2005) which reviewed performance and management of PSI re-use within the EU 25 for DG Information Society. According to his presentation, performance depends on four factors:

- Access to PSI.
- Distribution and commercial exploitation.
- Pricing and licensing.
- The status of the EU directive transposition.

21. He formulated management guidelines in the following fields.

Policy level

22. Most countries have a general regulatory framework covering access of citizens to PSI for personal purposes (commercial purposes are often not mentioned). Almost all countries have e-Government policies, which usually do not mention re-use or exploitation, with the exception of Finland, Ireland, the Czech Republic and the United Kingdom.

> *Recommendation 1*: Clarify whether commercial exploitation of PSI is covered by regulation of access to PSI. Develop regulation if needed. In *e.g.* Italy and Norway, the general pricing policy is that everyone has free access to PSI but it is not clear if this is also the case if the user then wants to commercially exploit the information. This creates uncertainty and risks for organisations wishing to exploit PSI.
>
> *Recommendation 2*: Include objectives and action lines related to re-use and exploitation of PSI in national e-Government strategies. All countries investigated (apart from Finland, Ireland, the Czech Republic and the United Kingdom), have no single policy for both e-Government and PSI exploitation. This may lead to parallel and possibly incompatible solutions, while it can be expected that developments will be better co-ordinated if there is a single policy.

Organisational level

23. Many countries have a central agency or cross-agency co-operation structure to co-ordinate e-Government activities. It is not clear in many cases whether these agencies are also responsible for the implementation of policies related to the exploitation of PSI.

> *Recommendation: Establish a central organisation that publishes and maintains guidelines, provides tools and supports common approaches across the public sector, explicitly covering the area of exploitation of PSI. Here the main issues are related to the organisational structures that are in place to manage the production of and access to information*. In Denmark, PSI Directive implementation activities are organised by the National IT and Telecom Agency in a context where also other e-Government activities are co-ordinated. This allows co-ordination on a practical level.

Semantic level

24. Although it is widely recognised that semantic standards are necessary for better organisation of information, framework specifications are in existence in relatively few countries (*e.g.* Denmark and the United Kingdom), and the work of OECD in classifying PSI has been helpful in this regard.

> *Recommendation: Establish common standards and approaches for description and classification of PSI to facilitate re-use.* Important issues are how information is structured, classified, and described in a way that users and re-users of the information can find the information relevant to them. For example, if there is a common description approach, with a specific metadata standard being applied, the definition of the descriptive fields should be publicly available and well documented. In the Netherlands, the standards framework OSOSS (Open Standards and Open Source Software) and the semantic recommendations are managed by a single agency ICTU (the ICT Unit), established by the Ministry of the Interior and the co-operating local authorities.

Technical level

> *Recommendation: Establish recommendations for open standards and proven approaches to underlie the technical environment of PSI.* In Denmark, in order to provide a coherent foundation for analysis and discussion, a working definition of open standards has been prepared.

25. Philippe Pierre then pointed out that governments rarely put forward a clear pricing policy. Often it is unclear if the pricing policy includes commercial re-use. Pricing can also be very variable: according to quality, volume, usage. Often the decision is left to each government body creating a lot of variation. Some government bodies charge prices to recover costs.

26. One key barrier is that not enough evidence has been produced to show what the incentives are for the public sector. Innovative "exploitation" calls for innovative models which often do not yet exist. He raised the idea of Public Private Partnerships (PPP) which could join forces to share some of the risk and benefits of data production and commercial reuse.

Norbert Paquel, Groupement Français de l'Industrie de l'Information (GFII) (France)

27. Norbert Paquel gave a review of PSI in France and called for an economic approach to PSI. He stressed that the topic of PSI has been debated for a long time in France. These efforts culminated in the transposition of the EU Directive into French legislation in 2006. The GFII is concerned with professional information, with participation of all key actors and stakeholders, and its members include public institutions and private companies. The GFII has participated in work on PSI re-use since the beginning, creating a specific working group in 1997. Their common position on PSI re-use stresses the economic importance of PSI, the need to promote the emergence of a market and encourage transparency and competition. The position calls for:

- A clear distinction between access and conditions for re-use, an evaluation of costs, transparency of licensing schemes and pricing that can cover additional costs for adapting and preparing data.

- The respect of privacy – without making this an excuse to keep all data confidential. To avoid litigation and in an effort to facilitate negotiation and consensus, the group proposed setting up a specialised authority with high level experts from both the public and private sector.

28. After years of hard debates in sectors such as geographic, legal or business information, public information producers and companies are coming to agreement. According to Mr. Paquel both public producers and re-using companies are confronted by the phenomenon of the rise of the free Internet and the development of information sources for which the business model is not based on selling information.

29. According to Mr. Paquel, the transposition of the European Directive is an important evolution as it officially acknowledges that:

- Economic re-use is an objective.
- Exclusive licensing is no longer permitted.
- Maximum fees have to be based on costs.
- It provides a definition of a standard licensing scheme.
- It calls for information registries with precise information on accessible data.

30. However, there are questions still pending when it comes to the transposition of the data. The main issues raised relate to pricing, the exclusion of proportional royalties although intellectual property right could generate a royalty, delays in procedures, and the difficulty to apply privacy protection (and co-operating with yet another public body). Information and training is necessary to change public service culture.

31. On economic analysis and metrics, M. Paquel reminded participants that it is more than legal, tax, and administrative information. Spatial information (geography, "cadastre" – land properties), business information (balance sheets), healthcare and public health insurance information are all very valuable. It is important to draw the lines between a majority of administrative services and those whose public mission is to manipulate and publish information. There are four main types of information-intensive institutions:

- Education, culture, research. These are currently outside the scope of the Directive.
- Public Information Offices such as INSEE (Statistics), IGN (Geographical), INPI (Intellectual Property), *Documentation Française* (Publishing), Journal Officiel (Law), and *Meteo France*. This group have so far been at the centre of conflicts but they have a policy, they work with information providers and information specialists. Therefore, difficulties have been or will be solved and the situation has improved in most cases.
- Other government offices. Here the problem often is to know what information exists, and to deal with the local culture which is usually not information oriented.
- Other public offices, from local authorities to public institutions, chambers of commerce and other private structures that are nevertheless financed by taxes.

32. There are three main ways for identifying PSI: origin of financing, nature of the institution, and public mission.

33. Mr. Paquel insisted that governments look beyond direct budget constraints and consider PSI as a factor for development of the information industry. He spoke of a multiplier effect when information is available. But the evaluation of the economic value of PSI is difficult, and hidden costs of non-information cannot be estimated in most cases.

34. However information is not the core mission for most administrations and the status of public institutions varies (local authorities, autonomous agencies, commercial structures). Moreover, there is no

general practice or rule to: identify accessible and re-usable information, evaluate cost and potential, and define distribution policy.

35. Difficulties also arise in negotiations: Administrations whose main mission was the production of information started with monopoly or exclusive licensing approach, and are now having to evolve towards open rules. They have sometimes developed a strong commercial department and now, they have to give equal treatment to private firms. Others very often have few resources to make information available.

36. Evaluating specific costs is not easy. There is no basis other than negotiation and consensual agreement. Every institution knows its own domain, but administrations and public offices are organised in vertical silos. In addition, very often, there is an important added value in combining information from multiple sources.

37. Mr. Paquel concluded by stating that information is now better understood by a growing number of actors in the Public Sector. It is important and productive to set up working groups with representatives of both the public and private sectors. The EU Directive has given a strong basis for the development of an information industry using PSI.

38. International co-operation and discussion is increasingly important in order to develop a market whilst considering specific national situations and cultures.

Gerhard Wagner, Secretary General, Austrian Federation for the Information Industry (VIW) (Austria)

39. Mr. Wagner shed light on the difficulties with the commercial reuse of PSI. Austria and Germany are typical for the diversity and heterogeneity of the various PSI-reuse markets.

40. Most EU-Member States face a clash between pros and cons within the public sector. Whereas few public data holders actively support the private content industry, the majority of public bodies opposes or delays the licensing process. The most resistance emerges from PSI-beginners, *i.e.* public data holders with no experience in PSI-licensing.

41. Austria has 25 years experience in digitising public registers and granting broad access to business community and citizens, is excellent in terms of hiring private sales-agents (PSI-distributors) on a concession basis, but extremely bad and resistant in terms of granting re-use licences. Austria has for example:

- Excellent scores in terms of digitising public registers and establishing online-databases, starting 25 years ago (broad accessible, but mostly paid services).
- Two ministries have gained excellent scores by outsourcing marketing and billing of some PSI (authentic registers) to private sales agents.
- Good scores go to the cultural institutions which outsource tasks to SMEs for digitisation and marketing to customers worldwide (not always 100% PPP-models, but close to it).
- No “Freedom of Information” legislation is in force, but federal legislation provides for indirect access to certain public files in a specific case for the parties involved.

42. However, Austria is still bad in providing reuse licences (either too slow or not providing them at all):

- Extremely bad scores for those public and authentic databases on which the public sectors makes a fortune by selling the data for USE by means of hiring private distributors. These public dataholders fear competitive re-use products from the private sector.

  – PSI-licensing done by PSI-oldies (*i.e.* existing PSI users): Good or even excellent scores for those major public data holders with a proven record in PSI-licensing (*e.g.* GIS). However, even in that sector initial licensing for new customers may take months.

  – Extremely bad scores for the public PSI-beginners (*i.e.* new public entrants receiving the first PSI-reuse requests by the private sector): 44 of 45 applications submitted in the last 6 months have been answered negatively.

- Referring to the case of the Polish weather agency, public data holders hire lawyers to find sophisticated ways to bypass the application of the PSI-Directive.

43. Often government agencies have not grasped the difference between use and commercial re-use – or between primary and secondary users - granting the former but not the latter. Often alternative dispute resolution systems are too expensive especially for small and medium-sized industries, SMEs. No SME can afford to invest EUR 20 000 in one ADR or wait for 5 years for a final decision taken by a court. The legislation and judicial steps alone are not the solution. Without intensive training public data holders will not change their sceptical and negative attitude towards granting PSI-licenses.

44. Technology alone – a factor highlighted as important in the OECD PSI study – is not sufficient to trigger commercial re-use of PSI. An information culture such as in the United States is necessary. Finally, while Mr. Wagner is looking forward to a community-wide or even world PSI-reuse market this is currently not a realistic option as even national PSI markets are not working.

Discussion

45. The Chair summarised by underlining the need to clarify the rules for commercial reuse, the usefulness of defining open standards and approaches, the importance of looking at market dynamics and preventing data monopolies, and the lack of understanding of the economic potential of the PSI market.

46. The Austrian delegation clarified that the Ministry of Economics has been active in informing PSI newcomers (*i.e.* public institutions which now receive requests for re-use licences) but that much remains to be done. Many institutions simply do not know how to go about it. Yet the Ministry will make sure that training is at the top of the agenda. Creating PSI contact points in each institution who will receive appropriate training will be the objective.

47. The UK Office of Fair Trading commented on whether information should be provided free of charge to re-users. The representative stressed that the issue is complex. Not charging for information solves many competition problems and it enables the private sector to have a greater role in adding value to the information, creating new products for other businesses and consumers. This has consequent benefits to the economy and would provide higher receipts from corporation tax to the government. However, it is only a subset of all taxpayers who will buy the products derived from public sector information and therefore benefit directly. Businesses benefit by reselling the data to taxpayers (so even if data is given away for free the taxpayer may end up paying twice). In terms of competition, the OFT believes that it is important to have access to raw, unrefined data for all businesses.

4. Industry and business case examples: opportunities and challenges

Questions addressed included: Who is generating commercial value-added products and services based on PSI? And how? Are there bottlenecks for development of the use of PSI? Are there special issues relating to data access at international level, with access/pricing fragmented at national level?

Jennifer Campbell, Member of the PRIMET Board, Managing Director of Meteo Consult B.V.

48. Ms. Campbell presented views on behalf of PRIMET, an Association of Private Meteorological Services with 36 members in 16 European countries and which promotes an open data policy for Europe. Her presentation focussed on three aspects: How does the weather business use PSI? What value do meteorological services add? What are barriers to development?

How does the weather business use PSI?

49. Observations are made in space, air, on the earth and sea. Observations are transmitted to super computing sites. The data is analysed to form a complete picture of the atmosphere. Based on super computer analysis a global forecast is computed for up to 15 days ahead. PSI observations are collected for the whole world from the following places: Synoptic stations, ocean buoys, remote sensing via satellite, radiosonde balloons – upper air, rainfall radar and aircraft reports. Then these PSI observations are used to build atmospheric models: Circulation models (GCMs) use complex maths and physics to calculate forecasts. The latter GCMs are run on government-funded supercomputers.

50. The value added by meteorological services lies in: Improved forecasting and innovative new products which can be tailored to industry needs and are market driven. There are clear benefits to industry as shown by data presented by Ms. Campbell showing that a minor weather forecast improvement (*i.e.* improving the forecast by just 1°C) in the United States can lead to incremental benefits of up to USD 60 million per year. Weather products are produced for the following business areas: Roads, rail, maritime, agriculture, energy, and aviation. Innovative products are, for instance, road ice forecasting, weather forecasts to schedule track maintenance and forecasts on the effect of weather on certain businesses (agriculture, for example).

51. Problems lay in unfair competition from public weather services, cross subsidisation, abuse of dominant market position, price dumping, and prohibitive data pricing and/or restricted access to data.

52. In theory, ECOMET (an alliance of the European National Meteorological Services, NMS) has as objective to "ensure the widest availability of basic meteorological data and products for commercial applications and to guarantee access to meteorological data and products, be it for public or private sectors". In theory, the NMS's have developed in ECOMET a legal framework to establish equal competition conditions for the public as well as for the private sector.

53. But the facts show a different picture: NMS's use data commercially that is not listed in the ECOMET catalogue, they practise prohibitively high pricing and huge variations between countries, sometimes there is an unwillingness to supply the data even when listed in the ECOMET catalogue, often the licensing terms are prohibitive and not all EU member countries (especially the new ones) are part of this ECOMET scheme. Barriers to development are that ECOMET has no control over NMS's pricing, that there is no harmonisation across Europe and that there is little to no action with respect to anti-competitive pricing or restrictive data practices.

54. According to Ms. Campbell these are also reasons why the EU weather market is weak and why it does not compete globally (in the US states the direct weather market is about USD 400-700 million

whereas in the EU it is only about USD 30-50 million). She called for a single European market for weather data with all data readily accessible, from a single source, at fair prices.

Francesco Saverio Nucci, European Project Co-ordinator, Engineering SpA - R&D Lab (Italy)

55. Mr. Nucci presented BRICKS (Building Resources for Integrated Cultural Knowledge Services), as an example of Public-Private collaboration in PSI. The R&D division of his firm has about 100 research specialists, EUR 40 million invested in the three-year period 2003-05 and many projects which enable digital content. His presentation focussed mainly on making available public sector content of cultural, educational and similar types.

56. His point of departure is that distributed (networked) technologies can drive a new generation of public/private content systems enabling an active multilateral relationship between content repositories, and that interactive technologies improve user experiences and participation, enhancing an effective exchange of background, experiences and heritage. He cited two projects in particular to exemplify their work.

BRICKS - Building Resources for Integrated Cultural Knowledge Services

57. BRICKS is an Integrated Project with a EUR 12 million budget, and more than 20 partners. The goal of BRICKS is to improve accessibility, visibility and recognition of the commercial value of Europe's cultural and scientific resources, by developing advanced digital libraries services, providing high-bandwidth access to distributed and highly interactive repositories of European culture, history and science. A new generation of digital library services may emerge with *i*) an open source P2P architecture where users can share knowledge, content and services; and, for example; *ii*) a decentralised data rights management architecture, increasing the overall scalability and interoperability.

58. A concrete example is the "fortuna visiva" of Pompeii which is a digital archive of visual and written documents from the discovery of Pompeii in 1748 to the end of the XIXth century. It includes: images - drawings, watercolours, engravings; bibliographic Sources — edited books containing images; and manuscripts and unedited documents containing images.

CALLAS - Cooperative Augmented Living Laboratories for Art and Scenography

59. CALLAS is an integrated project with a EUR 11 million budget. It aims to be the creative laboratory for experimenting with new concepts for a more participative and affective-enriched user interaction in new media applications. Public places host a variety of community uses such as playgrounds and other types of gatherings for specific interest groups (skateboarding or soccer). All these activities are not always well supported and are in what can sometimes be described as alienating spaces or non-places. Much can be done to increase the quality of public spaces, using electronic and digital technologies to render them configurable with benefits to our social wellbeing, motivation and engagement in daily life. This includes augmented reality for art, entertainment, and digital theatre; interactive installations for public spaces; and next-generation interactive television.

60. This form of new display of public content also triggers new markets for innovative hardware input devices (*e.g.* haptics and wearable optics), digital TV networks, new revenue-generating services, toys/robotics and games appliances, car appliances, etc. Both projects rely on a sophisticated technological infrastructure and application services. Making available such public sector content thus relies on intensive R&D and technological and organisational innovations.

Alain Kervicic, Manager of Data Products, Tele Atlas

61. Alain Kervicic presented the situation of Tele Atlas a global geo-content provider serving a wide range of markets and leading PSI user with 2005 revenues of EUR 200 million, 2 300+ full time staff and contract cartographers, having shipped 6+ million maps in 2005. Tele Atlas has been in this business for over 20 years. It has grown twice through major acquisitions, the first with the acquisition of ETAK, itself a pioneer in the business, in 2000. In 2004, Tele Atlas also acquired Geographic Data Technology (GDT), by far the leading provider of maps for enterprise and public sector applications in North America. Tele Atlas is a public company listed on the Euronext Amsterdam Exchange and the Prime Standard Index of the Frankfurt Stock Exchange.

62. The partners of Tele Atlas span the many markets in which maps play a central role in helping consumers and business users find the people, places and products they need (web portals / Internet mapping, automotive sector, but also the public sector). Personal navigation is however the leading product. In the late 1980s and through the present day, the largest number of systems has been concentrated in the automotive sector. Strong growth is expected in the Internet wireless applications (*i.e.* GPS-enabled smart phones and exciting location-based applications and services). Many of the earliest innovations in the field can be traced to the enterprise and public sector markets, which are often referred to collectively as "geographic information systems", or GIS. As early as the 1960s, government were involved in digitising streets, census boundaries, etc., laying the groundwork for the other markets.

63. The process of delivering geodata is the following: it involves gathering and compiling information from thousands of authoritative sources, driving to both detect and verify changes, and tools and technology to rapidly normalise, standardise, and integrate all sources into a single database. Advanced technologies are used throughout the process. Images are automatically processed. Web crawler technology and mining/integration tools further streamline updating. Mobile mapping vans are used to capture a detailed, 360-degree digital view of a road. Tele Atlas captures specific road details, such as traffic restrictions, lane counts and speed limits, as well as actual images of streets, storefronts, road signs and complex intersections. This gives navigation system users a rich combination of content to help them find a destination, and arrive there safely. The maps are updated every day, and new maps are issued to customers, sometimes daily, but typically every 90 days. One of its advantages is that Tele Atlas data reflects the broadest range of countries, road coverage and points of interest available in any database. It is enriched by a range of relevant content.

64. Today's requirements for market-leading geographic solutions are: full coverage, in all global markets; fresher data, for greater accuracy; richer content, for a better experience; and open architecture, for faster time to market, and to incorporate partner and user feedback.

65. The value-added in PSI in Digital Mapping is steadily increasing. Tele Atlas started out interpreting large scale topographical maps, aerial photographs and satellite imagery to build up the geometry of the road network. This information was complemented with land use information from a multitude of sources and additional field survey street names and routing attributes such as prohibited roads, signposts, etc. were added. Now over 160 attributes are part of our digital maps. Specific attributes and features such as phonemes (phonetic transcriptions of *e.g.* street names) and points of interest.

66. Today there are two approaches for expanding map coverage and the updating of map content:

- Strategy 1: Tele Atlas with local office + PSI *e.g.* Landmateryt (SWE), Ordnance Survey (UK), IGN (FRA), TD Kadaster (NLD), Landvermessungsambt A,B,C (GER), Tele Atlas performs surveys: traditional survey and Mobile Mapping.

- Strategy 2: via "Global Partner" programme, *i.e.* co-operation with local partners who add value to the existing data.

67. There exist limitations for efficient integration of PSI into Tele Atlas' seamless and uniform map databases. The main obstacles are:

- Insufficient information quality (coverage, consistency, correctness, accuracy).
- Lack of applicable standards (no exchange formats yet or no adherence to emerging standard).
- Lack of guidelines/directives from authorities (role/task of public authorities is under debate). Federal and European authorities do not impose PSI to be shared. Not all authorities consider it to be their task to provide core map data.
- Liability concerns (safety-related information — speed limit, accident data, priority regulation): Public authorities can be held liable if they are obliged to provide information.
- No business cases to support business models for safety-relevant information, *e.g.* who will pay for safety relevant information? The map maker, the OEM or the consumer?

68. There are however some public sector "Champions" such as the road authorities in Scandinavian countries (Norway, Finland, and Sweden) who created a National Road Database (NRDB) and who are open minded for the creation and sharing of public data, who provide technology wise advanced (web) services. Other relevant private mapping & PSI initiatives are: SafeMAP: DEUFRAKO research project, PReVENT: FP6 Integrated Project, subproject MAPS&ADAS established pan-European, SpeedAlert: Forum and EC-funded project (finished), eSafety: Digital Map Working Group.

69. PSI and its commercial re-use is not only an economic factor but it provides better safety: eSafety, for example, is a joint initiative of the European Commission (DG Enterprise and DG Information Society), industry and other stakeholders with the aim to accelerate the development, deployment and use of Intelligent Integrated Safety Systems, that use information and communication technologies in intelligent solutions. The Goal is to increase road safety and reduce the number of accidents.

70. To conclude:

- Private map makers have relied upon PSI for map creation but have always added value (*e.g.* by adding routing attributes).
- Public Authorities play a role in the maintenance of digital maps in many countries. There is a clear need for PPP especially in domains were authorities 'manage' information (*e.g.* speed limits).
- There exist substantial hurdles for Public Authorities to supply information (lack of information/standards, political and organisational matters or "maturity", etc.). Often information varies a lot from country to country (often no common exchange formats exist, etc.). Thus Tele Atlas often starts from scratch and builds up its own database.
- Initiatives to stimulate this co-operation are being developed (eSafety, FP7).

Christopher Corbin, European Geospatial Information Policy and Public Affairs Director Info-Dynamics Research Associates Limited (UK)

71. Mr. Corbin provided a brief update on the public sector investment in creating and maintaining data – the supply side of the PSI re-use market; and the current issues and behaviour of public sector data holders in the United Kingdom that is holding back the PSI re-use market – the demand side.

72. The supply side approach described is similar to that used by PIRA in their report in 1998. The examples presented covered: turnover during the past five years, income derived from different customer sectors, return on investment, turnover per employee, and number of employees. Such data was pertinent when considering whether the price charged by a public sector body was in accordance with the EU PSI Directive, as well as whether the public bodies concerned were effective in acting directly in the market. The graphic analysis and background tables are accessible at the original presentation (www.oecd.org/dataoecd/43/51/36861346.pdf).

73. Turning to 'Industry success and business case examples: Opportunities and challenges', Mr. Corbin illustrated various difficulties in the current UK system that appeared since 1 July 2005 when the PSI Directive came into force. An example is the Ordnance Survey of Great Britain licence that was published in January 2006, which in summary could block any re-use of their data by the private sector, *e.g.* if the requester wants to make a product whose intended use is the same as, or comparable to, that of any product marketed by the Ordnance Survey or which it plans to market in the future. This has given rise to questions being asked in the UK Parliament in May 2006. The Ordnance Survey has received four requests for information under the re-use of Public Sector Information Regulations 2005 and only one was granted in full. The other three were treated as requests for information under the Freedom of Information Act 2000 and were therefore not applicable under the PSI legislation.

74. Moreover, Mr. Corbin was critical of the time taken from the inception of the EU legislation, to the transposition at EU member level, to its compliance and finally to have a significant impact on individual PSI re-users. This will provide a challenge when the PSI Directive is reviewed by the European Parliament in 2008. Not all EU Member States have transposed the directive and coverage is patchy.

75. Within the United Kingdom the percentage of local government organisations that have complied with the Directive is growing, but only from low levels. It may take several more years for all local UK government entities to comply according to Mr. Corbin. There is great variation in the implementation and in the granting of re-use licences according to different regions. Local government is an important holder of PSI as most PSI is held at the local level, but this data may be hardest to obtain.

76. Mr. Corbin spoke about the implications of the configuration of the public sector as Governments moved to improve the delivery of cost effective seamless services through partnerships and sharing of ICT infrastructures. For example common front-end and back-end services between different government entities further restricted the PSI re-use market.

77. Finally, he raised some recent UK initiatives, which aim at facilitating access to PSI:

- The Locus Forum (http://www.locusassociation.co.uk/) which works to promote fair competition between the public and the private sectors, in particular in the use of Public Sector Information (PSI). Locus has been established because its members recognise that PSI underpins the business models of many organisations in the UK's private sector. Locus believes that private sector use of PSI has an important role to play towards fostering innovation, developing new and improved products and services, and ultimately contributing to the overall health of the UK economy and international competitiveness.

- The Guardian-led campaign (UK newspaper) to free publicly produced data for public use and re-use (www.freeourdata.org.uk/)

Prof. Juan Carlos De Martin, Politecnico di Torino, Dipartimento di Automatica e Informatica (Italy)

78. According to the technological point of view portrayed by Mr. de Martin the maximum benefit from PSI is derived if PSI is framed in the Semantic Web context. PSI should be seen as vast holdings of clearly marked data available for web services, applications, etc. In other words, if made accessible the data is not only available to provide information to users, but also, and more importantly, to software agents. Machine-to-machine communication is becoming increasingly important in many fields: continuous, automatic, flexible information exchange and processing with little or no human intervention is increasingly possible and producing efficiencies. This is in all likelihood the scenario that ensures maximum benefit from PSI due to the network effects and machine-to-machine interactions.

79. However, several issues need to be addressed:

- Intellectual property rights of PSI. In the current legal framework, access to the IPRs is too difficult to obtain. *A priori* rights grant by means of standardised licences expressed in digital form would be desirable. (See, *e.g.*, the Creative Commons allows for a digital expression of access rights. Search engines can search this data and know what is accessible and what is not).

- Metadata. Data needs to be found, understood and used. Standard, effective ways to tag data are crucial to truly achieve the full potential of PSI on digital networks.

80. In drafting PSI-related policy, it is worthwhile to keep in mind not only traditional examples of PSI usage focused on shrink-wrapped products delivered to the end user, but also scenarios where PSI is seamlessly produced, communicated and used by software agents over digital networks. Over the next 10 years, this second scenario will most likely become dominant, with huge economic and social impacts.

Sabine Enjalbert, Director Business Development, Mappy SA

81. Ms Enjalbert presented Mappy, which is one of the leading European companies in business-to-consumer location-based services (a 100% subsidiary company of the PagesJaunes Group) available in 13 European languages. Mappy also produces a range of business-to-business packaged and tailor-made services for businesses and public authorities, as presented in stylised form in Table 1. These are based on know-how in cartographic and photographic online services and a proprietary LBS technological platform.

Table 1. Mappy's products and business models

Offer	mappy.com	MappyPro
Target	Mass-market	Corporations and public authorities
Business model	Monetised audience (advertising and intermediation)	Set-up fee Licence fee Query-based fee

82. Mappy adds value in offering Dynamic maps and proximity searches, easy-to-follow interactive maps, drag and drop function, building public sector points of interest (POIs), Integration of aerial photos ; itineraries, driving directions and services available on the web and mobile. The basic information is complemented by value-added services often acquired through a partnership policy (traffic information,

toll costs, location of ATM, car parks, etc.) and increased personalisation of its services (Save own addresses, maps, routes and create own points of interest — Send geographical messages to anyone — Create and edit own route books — Create own invitations and have them sent with a map and / or itinerary). Key success factors are that mappy.com is perceived as a public interest service, user-friendly applications, intuitive look and feel, uniformity and consistency of data, etc.

83. Mappy's business model relies on access to comprehensive geographic data, including POIs and house numbers, the consistency and accuracy of worldwide data, regular updates, the possibility to edit the service on multiple media (web, mobile phone, navigation systems), access to listings of public works (*e.g.* information on major mid/long-term works on roads, tunnels, etc.). Some data is acquired by providers such as Tele Atlas, some data is collected by its own efforts.

Discussion

84. Daniela Battisti (Italy) addressed the problem of the lack of harmonisation across European content and PSI offerings which make it difficult to develop a proper business model around this type of content. The interfaces, data sorting methodologies and access regimes that apply throughout different countries are the core problem. The discussion also raised the issue that under the EU PSI Directive it is difficult to complain about lacking access. The PSI directive does not afford access and if a public data provider declines access, then there is no recourse.

85. Gerhard Wagner pointed out that if pan-European licences are not granted soon, then US firms may soon enter the European market with their own data and crowd out European providers (European SMEs could be particularly vulnerable to this potential development).

86. Eivind Lorentzen (Norway) asked what role Asia has in the PSI debate? Jennifer Campbell mentioned that in China only the national weather service can provide weather information. Alain Kervicic mentioned that the Asian market is growing very fast. Tele Atlas has a joint venture with Geodata in China, but it cannot export Geodata content outside of China. All compilations have to be done locally with a specific geocoding. Tele Atlas has many collaborations in other Asian countries.

87. Participants agreed that the role of the OECD is to raise the profile of the PSI issue and make relevant recommendations.

5. Government approaches: State of play and new models

Questions addressed included: How far have governments developed PSI access and use in practice? What is the experience with different models? What kind of information is required to clarify and improve policy?

Mr. Cheol-Hoon Chung, Senior Researcher, Korea Agency for Digital Opportunity and Promotion KADO (Korea)

88. Cheol-Hoon Chung presented the Korean projects for building a national database with public sector content. The database will consist of high-value information resources for national use, such as academic reports, film and archives of science, technology, history, culture, etc., and support its public search and use. The project was started by the enactment of the Korean Public Knowledge Information Resource Management Act in 2000.

89. Its declared goal is to contribute to the improvement of national competitiveness and to increase the efficiency of policy decision processes and fulfil the people's right to know. Furthermore, it is seen as an essential tool to bridge the digital divide. The objective is to form an informatisation environment where

the general public may benefit, regardless of economic, physical and regional diversity. Korea aims at improving the public information utility through national informatisation education especially for the digital-illiterate, strengthening international co-operation and exchange for closing the information divide and developing bridges between developing countries and promoting a creative information culture through productive and sound information use.

90. Korea invested KRW 304.9 billion from 1999-2005 to build the database. The goal was to digitise 48% of all documents in strategic sectors, support their integrated search (ideally across different countries) and implement a knowledge management system through special Committees and standards. The Korean Film Archive was provided as an example which contains: Korean movie e-learning content development, online movie education lectures, visual and auditory textbooks, a Korean film inheritance catalogue. Films are made available at lower prices compared to private services.

91. Mr. Wagner asked for a few points of clarification about the success stories of Korea:

- "48% of Korean content has been already digitised". Which of the more than 10 content-segments have been targeted (STM, librarian and archival content, audio, film, video, educational content?). Who did finance the digitisation? Public funding, PPP or business models?

- How important are digitised PSI-resources for the mobile content-policy? Which types of Korean/Japanese content finds customers abroad (export ratios)?

- The interdependence of content, PSI-reuse and digitisation policies in countries such as Korea and Japan is still not traceable and evident for foreign spectators. Please provide some evidence.

92. Mr. Wagner made the proposal to elaborate more on the success-stories of Korea and Japan:

- Translate the Korean and Japanese studies and action-plans into English (content, PSI, digitisation, scientific and educational content, export and import ratios).

- Identify content-experts in Korea and Japan who are capable of answering detailed questions in English and set up an EU-Asian advisory board (in collaboration with the Asian content-association BIIA).

- Finally, the Korean presentation focused on making accessible PSI information. What about encouraging commercial re-use of this Korean content? Are there any official plans on this matter or Korean legislation?

Yvo Volman and Meri Rantala, DG Information Society and Media, European Commission

93. In its i2010 initiative, the European Commission has identified a key role for content to improve the use of information technologies for economic growth and quality of life. This holds true for 'Public sector content' (digital libraries initiative, cultural content, scientific information) and 'PSI' (as treated by the PSI directive).

94. Re-use and new added-value services build on top of existing data and potentially combining data from different sources can create new economic value. The MEPSIR study of the European Commission (www.mepsir.org) has shown that the re-use value of PSI is very large. There is a large potential for cross-border use of PSI sources and derived innovative data products. The European Commission also recognises that there are problems that mostly relate to competition issues and the absence of a 'culture of re-use'.

95. The PSI Directive provides for minimum harmonisation, imposes non-discrimination (especially regarding exclusive arrangements), the prevention of abuse of dominant position (pricing) and cross-subsidies and lays down transparency requirements. During the negotiations, the European Commission proposed to create an annex to the Directive with rules on charging but this was refused by the Member states. To stimulate re-use in the EU Member states, the Directive prescribes the creation of asset-lists and online licenses. In its recitals, it encourages Member States, to make as much material as possible available for re-use, and promote re-use, if possible at marginal costs of reproduction and dissemination, and to exercise copyrights in a way that facilitates re-use. The European Commission emphasised that the Directive is a *form of market legislation, not freedom of information legislation.*

96. The European Commission is monitoring the implementation of the PSI Directive and reported on the transposition status of the Directive which is not yet complete. Examples of good practices in Member states related to the PSI Directive are the Czech Republic: PSI Watch Initiative; Denmark: IT standards; Ireland: portal, asset lists; The Netherlands: efforts to prevent exclusive agreements.

97. At this stage, the European Commission also reflects on what is the best model for commercial re-use of PSI. Empirical evidence and analysis of the different access models and re-use are relevant as is the information on transition costs (*i.e.* how to go from one model to the other without endangering the collection of data due to revenue shortfalls?). Questions relate among others to intellectual property rights (*i.e.* public sector bodies as right holders), and the scope of the directive which currently excludes cultural and research content.

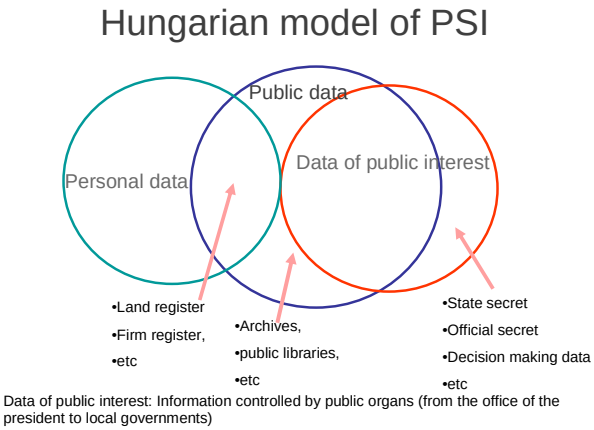
98. To move forward, the European Commission is in need of facts and figures (is it marginal cost models or cost recovery models which are best?). According to the European Commission, the OECD is the right organisation to provide much-needed analytical and quantitative economic analysis of this field.

Mr. László Majtenyi, Director of Eötvös Károly Policy Institute (Hungary)

99. László Majtenyi presented the Hungarian PSI Model. It is based on the notion of freedom of information which means that citizens have the right to get to know information of public interest and to inspect official documents. The shared purpose of data protection and freedom of information is to continue maintaining the non-transparency of citizens while rendering transparency of the state. Mr. Majtenyi's presentation focussed on the human rights aspect of PSI rather than its commercial re-use.

100. The essence problem of reusing PSI is that the domain of PSI and Freedom of Information is the same, but the approaches of commercial re-use and the constitutional aim to access public data are different. In Hungary, every individual is granted the right to free expression, as well as to access and disseminate data of public interest. In Europe, Hungarian legislation stands alone in having opted for the rather common-sense solution to enact a single law to regulate freedom of information in conjunction with the protection of personal data. Mr. Majtenyi went on to demonstrate the uniqueness of the Hungarian legislation while comparing it to the US Freedom of Information Act.

101. Under the legislation any knowledge may be personal data or data of public interest. The data may be either public or confidential (its confidentiality has varying levels and titles). The main rule in the case of personal data is confidentiality. The main rule in the case of data of public interest is publicity.



102. In the last year the Hungarian Parliament has enacted the Electronic Freedom of Information Act (EFOI). As a point of departure, the Act regards information handled by public agencies and officials as accessible for anyone by default, with certain exceptions. However, universal access means more than just rendering information accessible to the applicant upon request. The institution of disclosure calls on public data controllers to voluntarily make available as much information as possible.

103. Mandating electronic access should not decrease access to public information in conventional ways. It is therefore vital that the citizen can choose the format or data carrier, as well as the medium for receiving the information sought. Agencies can be obliged to supply digital data in printed form upon request (except of course special databases that are unfit for such conversion by their very nature) but they cannot be obliged to digitise paper-based information. Finally, the maintenance of a homepage should not be seen as an alternative to answering individual calls for public information.

104. The EFOI stipulates the principle of technology independence, *i.e.* the law does not stipulate any one technology or network platform for that access. It is equally obvious that making disclosure mandatory on every conceivable electronic platform, including e-mail, the web, SMS, WAP, and in the future even digital television, would impose an excessive burden that no agency of public administration could possibly shoulder. In reality, it is possible to ensure electronic disclosure by providing a single channel of electronic communication. At the same time, it is preferable during implementation to accommodate the expectations and actual capabilities of data seekers by concentrating development efforts on solutions easily accessible to most people without making a major investment in technology. This criterion also goes a long way toward guaranteeing the judicious use of public funds. Whenever some new technology becomes available at a lower cost for a broader group of users, it must be enabled as a means of accessing public information.

105. It also stipulates the principle of equal opportunity and government subsidy of access. The Act identifies a number of ways of ensuring equal opportunity: by declaring that public information posted on the web is available free of charge; by mandating the government to ensure access to electronically disclosed public information free of charge for disadvantaged groups and to maintain an assistance service; by requiring handicapped access to web sites; and by requiring the option of accessing information in foreign languages. As a token of equal access, public agencies should be required to post their basic information in the languages of Hungary's ethnic minorities.

106. Mr. Majtenyi addressed the need for protection of personal data while implementing freedom of information. Petitioners need not justify their petitions to have access to information. They are granted anonymous access.

Jim Wretham, Head of Information Policy, Office of Public Sector Information (UK)

107. Jim Wretham spoke about the implementation of the EU PSI Directive from the perspective of the UK Office for PSI. The UK implemented the European Directive on 1 July 2005. Since then the Office of Public Sector Information has been involved in spreading awareness and best practice to ensure that the public sector meet their PSI responsibilities.

108. The reaction of the public sector has been varied but certain key issues have emerged. Some of the main ones are:

- Confusion about the difference between access and re-use.
- How will this affect our own commercial activities?
- Concerns about the resources needed to comply with the regulations.
- Disbelief that anybody could possibly be interested in re-using the information.
- Questions about the benefits to the public sector itself.

109. Considerable progress has been made at central government level. This is largely because the management of copyright for central government information is handled centrally through OPSI. But there is a lack of awareness of copyright and licensing at the local government level. Much of OPSI's activity has been devoted to trying to redress this issue.

110. A number of initiatives have been launched. These include:

- Click-Use Licence – This is an on-line licence that has recently been extended beyond central government to cover the wider public sector www.opsi.gov.uk/click use/system/licenceterms/ CCWPS03-00.pdf
- The Information Fair Trader Scheme verification process http://www.opsi.gov.uk/ifts/index.htm
- The issue of best practice guidance http://www.opsi.gov.uk/advice/psiregulations/ advice-and-guidance/psi-guidance-notes/index.htm

111. In the future, the process of providing guidance and assistance on how the responsibilities under the PSI regulations will be continued will be at the forefront. In many cases, meeting the obligations of the PSI regulations is more straightforward than some institutions of the public sector feared. One of the themes the OPSI is exploring is how to establish a working relationship between public sector organisations and potential re-users (*e.g.* to form a working group so that the private sector can indicate the sort of information that they are most interested in). This avoids the public sector going to the trouble of listing and identifying information that the private sector has little interest in re-using.

Eivind Lorentzen Ministry of Trade and Industry (Norway)

112. Eivind Lorentzen pointed out that in Norway first steps on the topic of PSI were undertaken a long time ago (*e.g.* the first memo on PSI in the Ministry of Administration – reputedly in 1987; First official Norwegian report on PSI in 1994, etc.). But it took impetus from abroad (the EU PSI directive) in 2003 to lead to tangible progress and, finally, implementation of the Directive in 2006. This is a good example to show that foreign or international guidelines are important drivers for national policy making.

113. Since then, a comprehensive PSI-regime has become part of a revised Freedom of Information Act in Spring 2006. Transparency, price-limits, access, non-exclusivity are covered by the Norwegian law. Pricing is to be set by government regulation. By 2008, a holistic policy shall be implemented that ensures efficient re-use of public data to increase value creation and development of new services, based on a no cost principle. Sole rights' agreements for use of official data, which conflict with the EU Directive concerning re-use of PSI, shall be reviewed and changed by 2007.

114. The government's aims are to create conditions that are conducive to Norway becoming one of the world's leading innovative, dynamic and knowledge-based economies. Welfare and a favourable business environment are created through co-operation between the private sector, the work force and the public sector. A good PSI-policy is part of this.

115. There are challenges on the way. Each new sector of demand for PSI seemingly has to go through a similar learning experience. In some areas PSI-policy challenges already established frameworks for data exchange. Some public institutions have invested resources and pride themselves in bringing PSI-based products to the end users. The field of cultural and educational content which currently is outside of the ambit of the PSI Directive raises a number of issues that needed to be treated (either in the same way as PSI or differently, involving different finance mechanisms).

116. Lessons learned are that implementing PSI regimes is a long process which raises complex policy issues with many stakeholders. Implementing PSI regimes is an educational process. Articulate PSI users should be encouraged to voice their concerns and challenges. International regimes and examples are really helpful to foster progress and the OECD has a role to play – guidelines might be a good idea.

Brief circulated by the Australian Delegation

117. Australia circulated a brief as an item for this discussion point: it is accessible at www.oecd.org/dataoecd/19/2/36874888.pdf.

Discussion

118. The Chair summarised that growth and competitiveness aspects should be central to all PSI policies and potential OECD Guidelines on the matter.

119. The discussion raised a number of issues. These included whether time limits could / should be put in place on exclusive PSI agreements? Should the work created by PSI regimes be carried out by the private sector rather than in understaffed government agencies? The particularly difficult situation for local authorities which have major costs due to PSI regimes but which do not benefit from tax revenue increases and other financial benefits. Had a formal extended impact assessment been done for the EU PSI Directive? the answer being no.

120. David Prosser (SPARC, Europe) pointed out that the OECD report has been very careful in separating the two ongoing OECD projects, one on open access to research data (see the OECD Declaration on Access to Research Data from Public Funding at www.oecd.org/document/0,2340,en_2649_34487_25998799_1_1_1_1,00.html and http://dataaccess.ucsd.edu/) and the other access to PSI discussed here. He suggested that eventually these two strands of OECD work should be integrated.

121. Finally, the Guardian grass-root initiative 'Free our Data' was described – it is a manifestation of the desire of data users and citizens to have costless or fair access to publicly created data and which criticises the cost-recovery model in place in the United Kingdom and favours the US model (www.freeourdata.org.uk).

6. Further analytical work and moving towards an international recommendation

Herbert Burkert, University of St. Gallen (Germany)

122. In the light of the discussions of the OECD Conference on Digital Content in Rome and of this workshop Mr. Burkert addressed three questions: *i*) Why an OECD Recommendation? *ii*) Why a Recommendation now? *iii*) What content for a Recommendation? In doing so he linked the activities of this Working Group to a broader context of national and international policies concerning PSI.

Why an OECD Recommendation?

123. The issue of PSI and its impact on the information market has been on the national and international agenda at least since the 1980s. In the United States, at least on the federal level, against the background of constitutional, legal and cultural framework conditions, PSI policies had developed through the co-operation of actors from the public sector, the information industry and Civil Society. These principles have since then – in spite of occasional controversies — optimised the creation, enhancement and distribution of PSI while adequately balancing public sector, private sector and civil society concerns.

124. Spawned by this example, the European Union – in a constant political effort – had moved from the "Synergy Guidelines" in 1989 to a Re-Use of PSI Directive in 2003. In addition several countries, *e.g.* the United Kingdom, France, several Nordic countries, and also countries such as Switzerland have developed and implemented policies on this issue over time.

125. Addressing these questions now on the OECD level with the aim of eventually developing an OECD instrument recognises the efforts of these Member States, as well as the inherently international character of knowledge-oriented societies and information markets, encourages innovation policies of Member States by harnessing additional information resources, and helps to further optimise international exchange.

126. Putting general principles for such policies into an instrument like a Recommendation will alert the interests in member countries that so far had no opportunity to develop policies in this field. A Recommendation may also invite those Member States that have already been pursuing policies to compare and evaluate them across national boundaries. An OECD Recommendation, in particular, might provide a useful umbrella for new modes of bilateral and multilateral co-operation.

127. Private sector actors would be encouraged by a Recommendation to raise the issues in their dealings with governments and public sector institutions on a national and transnational level. Civil Society interests would receive an international point of reference for the information society related and non-monetary value aspects of PSI. Finally a Recommendation would help to raise the general discussion of these issues up to the level of the international organisational and technological state of the art.

Why now?

128. Political initiatives have their critical moment, their "window of opportunity" when they can obtain the best ratio between their input efforts and positive output results. Discussions in this Workshop seem to indicate that with regard to methodology, the availability of empirical data and the results of analyses, the area of PSI and its possible impacts is still to a large extent an area in various shades of grey on the map of economic knowledge, deserving further exploratory analyses.

129. On the other hand the analyses already undertaken, as well as experiential evidence from current policies in place and available case studies seem to indicate that there is already a volume of knowledge to

digest and distil for meaningful policy suggestions which in themselves – as a constant — carry the need for further ongoing, parallel and periodic evaluation, on the OECD, regional and national levels.

130. Additional political factors point to the need as well as the opportunity for a Recommendation at this period of time: An OECD Recommendation would address member countries, particularly those that are also members of the European Union, at a critical stage when they have to implement the PSI Re-Use Directive. An OECD Recommendation would come at a time when EU institutions are in the process of reflecting on the impact and future of that Directive. An OECD Recommendation would move North American and European national and regional initiatives on to an international level at a crucial time when other economies start addressing these issues and when consequently the structures of a truly global information market for PSI start to evolve. By its very nature an OECD Recommendation on PSI addressing primarily member country governments can then effectively and directly reach the key agents of such policy making, and can reach them simultaneously and across different economic and regional settings. Furthermore, an OECD Recommendation could usefully influence the policies of non-members, especially in the Asia-Pacific region but also in others where this debate is still at the early stages.

131. Mr. Burkert recommended a parallelism between work on an OECD Recommendation and analytical work (such as more parallel case studies demonstrating the impacts of open PSI regimes, *i.e.* social accounting of PSI).

What content for an OECD Recommendation?

132. The late Peter Weiss (US Department of Commerce) and Mr. Burkert have prepared a first set of general principles (or ground rules) for PSI policy based on their analysis of national and regional policy. These principles are summarised in Box. 1.

Box 1. Possible ground rules for PSI policy

1. Inventory principle - Public sector institutions should make an inventory of their information holdings, update it regularly and actively make it generally and easily accessible.

2. Access principle - PSI holdings should be subject to a regime of access principles. These comprise the right of anyone to obtain PSI. Exemptions should only be based on consideration of personal privacy, preservation of significant private commercial interests where explicitly protected by copyright, or legitimate national security concerns.

3. Quality principle - PSI holdings should be provided in the same quality as they have been provided by the public sector.

4. Cost principle - The costs chargeable to any requester should not exceed marginal costs of distribution; there should be the possibility to waive such costs in cases where requesters can show a specific public interest is involved.

5. Choice principle - If available (or if easily transformable) Information should be provided in the requested format. The requester may be charged with transformation costs, provided administrative costs of recovering them do not exceed those.

6. Intellectual property rights and control of origin principles - PSI holdings should be exempted from IPR and also copyright and data-base protection regimes. The public sector should, however, be entitled to ensure through minimal regulation that responsibilities for any changes to the original information after its transfer are made appropriately transparent.

7. Legitimate improvement principle - Public sector institutions may extend, improve quality and format of their information provided they do so after a transparent procedure and in order to improve quality and/or extent of their services. Public bodies should not "feel compelled to discontinue a service that is to the public benefit simply because a commercial vendor chooses to duplicate it. […] Information vital to the public interest should not be "captured" by any entity, particularly in the private sector, which has economic reasons for controlling access".[1]

8. Continuity of obligations principle - PSI activities even if transferred to the private sector are subject – to the extent of their privilege – to the same principles as PSI holdings.

Source: Burkert, H. and P. Weiss (2004), "Towards a Blueprint for a Policy on PSI", in Aichholzer G. and H. Burkert (Eds.), *Public Sector Information in the Digital Age* as cited in DSTI/ICCP/IE(2005)2/FINAL.

133. **General/Sector Specific.** An OECD Recommendation should be general. It should set the interpretative context in which sector specific issues can then be addressed more coherently and effectively. The Recommendations can then be used as a point of reference in the light of the various sector specific needs, and their use can such be optimised in different settings.

134. **Efforts by the Public Sector.** An OECD Recommendation has to address and encourage the efforts by the public sector needed to harness the value of PSI beyond its use in the public sector: enhancing the knowledge about the existence of such information, assuring its quality and non-discriminatory accessibility across formats, and facilitating its reuse (see *e.g.* the Inventory Principle, the Access Principle, the Quality Principle, IPR and Control of Origin Principles as quoted in Box 1).

135. **Cost Issues.** An OECD Recommendation should address the cost issue; this issue is crucial for value-adding activities in the private sector as well as for Civil Society interests. If agreement cannot be reached on a Marginal Costs of Dissemination Principle that reflects best the potentials of information and

[1] National Research Council (2001) *Resolving Conflicts Arising from the Privatisation of Environmental Data*, Committee on Geophysical and Environmental Data. Board on Earth Sciences and Resources. Division on Earth and Life Studies, Washington, DC: National Academy Press.

communication technology for this field, the need for transparent and non-discriminatory conditions should at least be maintained.

136. **Need for Balance.** Any activities of the public sector in particular have to be seen in the light of its broader obligations for the economic, social and cultural well being of its citizens and the effects on the international community. Economic, political and regulatory activities of governments, regional and international institutions are under increasingly intensive and increasingly global scrutiny by the civil society to ensure an adequate distribution of the advantages of information and knowledge society oriented policies. Policies on PSI, in particular, because of the manifold contexts and value connotations of such information need to reflect the responsibilities resulting from its special character (as expressed *e.g.* in national, regional and international regimes for data protection and freedom of information) and provide Member States with the necessary margin of appreciation to pursue adequate policies to meet such responsibilities.

137. **General Aim.** In addressing these issues an OECD instrument could then reflect a common international consensus of public sector, private sector and civil society interests guiding national and regional implementation, and eventually adaptation across the various information sectors.

138. To conclude, Mr. Burkert emphasised that the OECD is the right body to propose such a recommendation.

Gerhard Wagner, Secretary General, Austrian Federation for the Information Industry (VIW) (Austria)

139. Mr. Gerhard Wagner added that Mr. Burkert's principles are very useful, but as they reflect primarily the interests of the information professionals (users) and the FOI-community guidelines may have to reflect also the specific needs of the private re-use industry, mostly SMEs and micro-companies. Further there is a need for: training methodologies for public data holders (*e.g.* methodology and a curriculum targeting PSI-data holders, training by local consultants and the nomination of PSI-ambassadors); a best practise directory of successful pan-European or worldwide services based on PSI and the most successful export examples of PSI-sale abroad; and finally an industry forum targeting PSI-experts and re-users in OECD-countries.

Mr. Cheol-Hoon Chung, Senior Researcher, KADO (Korea)

140. Echoing the points made by Mr. Burkert, Mr. Cheol-Hoon Chung stated that Korea is in favour of a recommendation.

Rob Davies, MDR partners (UK)

141. Rob Davies shed light on existing PSI activities to date in the European Union to reflect on needed next steps (*e.g.* PIRA Study, PSINet Preparatory Action, ePSINet/ePSINet-CEE Accompanying Measures, MEPSIR Study, ePSIPLus Thematic Network (under negotiation, eContent plus programme) up to the 2008 review). The main purposes of these projects were to raise awareness in public and private sectors, local government, to build a Europe-wide stakeholder community around PSI re-use and to gain evidence on the ground of progress, problem analysis, need for further action.

142. Thematic priorities have been on the legal and regulatory progress and impact made by implementation of the Directive, questions whether its scope should be extended, how public sector organisation and culture are affected in compliance with the Directive, how to encourage the re-use of PSI. The financial impact of the Directive: pricing and charging including impact on public sector costs and budget needs to be further clarified. Best practices on information management, standards and data quality are sought after.

143. The intended results are *i*) a larger community of public and private sector stakeholders is engaged in consensus-building up to the 2008 review of the EU PSI Directive; *ii*) identification of remaining barriers and disputes; *iii*) achieving greater visibility of pan-European and cross-border products/services; *iv*) obtaining best practices on successful business models and PSI practices; *v*) providing analysis of the Directive transposition impact in each country (*e.g.* evidence of Directive impact on pricing and charging in each state and in different PSI domains); *vi*) formation of an Industry Action Group (or similar) at European level to advocate and promote policies and activities leading to a more consistent and concerted approach to development of products and services based on PSI re-use; *vii*) definition of key standards/ architectures needed for improved public-private sector interoperability for PSI re-use.

Paul Uhlir, Office of International S&T Information Programs, The National Academies (United States)

144. Paul Uhlir echoed the presentation of Mr. Burkert that it is time to focus more closely on the policies that regulate this important area of content to foster its economic and social uses in the online environment. He also stressed the importance of standards and interoperability issues that need to be resolved. With respect to future work he suggested a parallel approach:

- Work on an OECD Recommendation with high-level principles that are sometimes already embodied in the US legislation or in the EU PSI directive, but which need to be broadened to other OECD and non-OECD members in the quest to develop a common set of principles to maximise benefits.

- Further analytical work that would assess the merits and problems with currently existing different approaches and policies towards access and re-use of PSI. He suggested the need to develop a well considered methodology that could be adopted internationally (also outside OECD) to get a better understanding of the impacts of PSI. Comparative case studies with regard to certain sectors would also help.

145. He concluded by pointing out that certain principles on digital archiving need to be established. Digital bits are ephemeral and archiving does not happen by accident. Some ground rules on this topic are needed. Finally, in the new digital content context it should be emphasised that PSI and content is no longer only a rich input to established firms. Today, the Internet makes everyone potentially a broadcaster or an entrepreneur, on the basis of adding value to / reconfiguring existing data. This new source of innovation and business creation should not be neglected and merits further study.

Discussion

146. The workshop concluded with discussion which covered the following points:

147. Michael Shapiro (United States) the WPIE to advance its work on PSI by collecting and analyzing “case studies” on the creation and dissemination (in the print and digital environments) in the public sector, private sector, and through public-private partnerships. Mr. Shapiro stated that such studies might provide the basis for useful comparative analysis across OECD countries within selected PSI segments (such as PSI related to science, business, and culture). With respect to the development OECD PSI principles or recommendations, Mr. Shapiro expressed strong concern that such step is probably premature and may not be needed in the future by OECD members, who are currently developing such policies and principles at the national level. Mr. Shapiro encouraged the OECD to gather and analyze such national experiences rather than attempt to set forth international principles or recommendations at an early stage in the process. Such a fact-based research approach would allow the OECD to develop its own,

original principles or recommendations, if later needed, rather than merely adopting principles developed by third party researchers.

148. Eivind Lorentzen (Norway) argued that given the existing US and EU legislation in place for many years, an international recommendation based on these local experiences is both feasible and desirable. Despite remaining shortcomings in impact assessment, the necessary facts to move forward with a recommendation are in place. The fact that challenges are on the horizon should not slow this work down. Paul Uhlir also suggested a decoupling of a possible Recommendation and additional analytical work. Herbert Burkert mentioned that these policy issues have been on the table for more than 20 years and now merit to be addressed. He also pointed out that the policy principles in the OECD PSI study were based on joint work between him and the late Peter Weiss from the US Department of Commerce.

Concluding words by Graham Vickery (OECD Secretariat)

149. The OECD Secretariat concluded the workshop by explaining the next steps of the PSI work and drawing the participants' attention to the discussion taking place in the Working Party on the Information Economy on the following day. As rapporteur Paul Uhlir would present a summary to the Working Party on the content and conclusions of the workshop.

ANNEX 1. AGENDA

9.30	**1. Welcome and introduction by the Chair:** Jean-Jacques Sahel (UK)
9.40-10.00	**2. Secretariat presentation of the main work items from the OECD PSI study** Graham Vickery, OECD Secretariat
10.00-11.20	**3. Commercial re-use of PSI - Economic analysis and metrics of public sector information** Questions to be addressed include: What are the rationale, advantages, disadvantages and effects of different access, cost, pricing, charging and distribution models. · Paul Uhlir, Director, Office of International S&T Information Programs, The National Academies (United States) · Robbin Te Velde, Senior researcher, Dialogic Innovation & Interaction (Netherlands) · Philippe Pierre, PwC Advisory Services (Luxembourg) · Norbert Paquel, *Groupement Français de l'Industrie de l'Information* (GFII) (France) · Gerhard Wagner, Secretary General, Austrian Federation for the Information Industry (VIW) (Austria)
	Coffee break
11.40-13.00	**4. Industry and business case examples: opportunities and challenges** Questions to be addressed include: Who is generating commercial value-added products and services based on public sector information? And how? Are there bottlenecks for development of the use of PSI? Are there special issues relating to data access at international level, with access/pricing fragmented at national level? · Jennifer Campbell, Member of the PRIMET Board, Managing Director of Meteo Consult B.V. · Francesco Saverio Nucci, European Project Co-ordinator, Engineering SpA - R&D Lab (Italy) · Alain Kervicic, Manager of Data Products, Tele Atlas · Christopher Corbin, European Geospatial Information Policy and Public Affairs Director Info-Dynamics Research Associates Limited (UK) · Prof. Juan Carlos De Martin, *Politecnico di Torino, Dipartimento di Automatica e Informatica* (Italy) · Sabine Enjalbert, Director Business Development, Mappy SA
13.00-14.30	**Lunch**
14.30-16.20	**5. Government approaches: State of play and new models** How far have governments developed PSI access and use in practice? What is the experience with different models? What kind of information is required to clarify and improve policy? · Mr. Cheol-Hoon Chung, Senior Researcher, Korea Agency for Digital Opportunity and Promotion KADO (Korea) · Yvo Volman and Meri Rantala, European Commission · Mr. Laszlo Majtenyi, Director of Eotvos Karoly Institute (Hungary) · Jim Wretham, Head of Information Policy, Office of Public Sector Information (UK) · Eivind Lorentzen Ministry of Trade and Industry (Norway) · Brief circulated by the Australian delegation
	Coffee break
16.40-18.00	**6. Further analytical work and moving towards an international recommendation** · Herbert Burkert, University of St. Gallen (Germany) · Mr. Cheol-Hoon Chung, Senior Researcher, KADO (Korea) · Rob Davies, MDR partners (UK) · Paul Uhlir (United States) · Workshop participants

ANNEX 2
OECD ANALYSIS OF PUBLIC SECTOR INFORMATION AND CONTENT

150. A first round of OECD analysis has been completed and published: *Public sector information and content* [DSTI/ICCP/IE(2005)2/FINAL] http://www.oecd.org/dataoecd/10/22/36481524.pdf. This analysis: developed a taxonomy of different types of PSI and public content and identified similarities and differences; analysed particular domains of PSI and business sector value-adding activities; explored public content projects and programmes; discussed ICT as a means for preservation and diffusion of public sector content; and identified policy issues and further research.

151. This analysis distinguishes:

a) Public sector information and commercial re-use

- *Public sector information.* This often has characteristics of being: dynamic and continually directly generated by the public sector, associated with the functioning of the public sector (*e.g.* meteorological data, business statistics), and readily useable in commercial applications. Public sector information may be the basis for information-intensive industries that produce increasingly sophisticated products.

- *Commercial re-use of public sector information.* Policy initiatives and laws have been introduced to facilitate commercial re-use of PSI (*e.g.* geographical, meteorological, traffic, business, economic, social and educational data). The United States has a history of facilitating access and commercial re-use of PSI. Many EU countries are implementing the EU Directive on the re-use of Public Sector Information which strives to increase commercial re-use.

b) Public sector content and accessibility

- *Public sector content.* This often has characteristics of being: static (*i.e.* it is often an established record); held by the public sector rather than being directly generated by it (cultural archives, artistic works where third-party intellectual property rights may be important); not directly associated with the functioning of government, and having public good characteristics (culture, education) not necessarily associated with commercial use. Public sector content includes public cultural, educational and scientific content.

- *Increasing accessibility of public sector content.* Wide public diffusion (*e.g.* from research establishments, cultural and educational establishments, public service broadcasters) and long-term preservation (*e.g.* in libraries, museums, archives and other public content resources) are major policy objectives. Public bodies are moving towards digital creation, management and distribution of their content to better preserve and distribute it. In many OECD countries fully or partly state owned, financed or subsidised broadcasters face the challenge of digitising and making their content and back archives more widely available.

152. Despite these distinctions it is acknowledged that there is no clear dividing line between the two in terms of commercial and non-commercial applications. There is a continuum of uses between the public sector information (*e.g.* meteorological information with high commercial use) and public sector content (*e.g.* cultural archives with limited popular interest but where access is a government obligation). But differences are blurring with increased digitisation and declining costs of distribution and access. For example, public sector cultural and educational content with little prior commercial interest is increasingly used in commercial and non-commercial niche and specialist applications.

ANNEX 3
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