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Future Digital Economy

DIGITAL CONTENT CREATION, DISTRIBUTION AND ACCESS - CONFERENCE CONCLUSIONS

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THE FUTURE DIGITAL ECONOMY:
DIGITAL CONTENT CREATION, DISTRIBUTION AND ACCESS
Conference Summary

Jointly organised by the OECD and the Italian Minister for Innovation and Technologies. Istituto San Michele, Rome, Italy
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TABLE OF CONTENTS

Conference Summary

The Future Digital Economy:
Digital Content Creation, Distribution and Access

RAPPORTEUR SUMMARIES

1.   The rapporteurs presented their summaries in terms of issues and areas where there was agreement and/or convergence among presentations and participant interventions and areas where there was disagreement and/or divergence.

Day 1 Rapporteur: Terry Fisher, Professor and Director, Berkman Center for Internet and Society, Harvard University

2.   Points of agreement:

- **Description**: Broad agreement that users are increasingly active. We are entering participatory culture not of consumers but users. Users are increasingly active and want to express themselves. Generational differences in usages have increased.

- **Prediction**: We will see a wide unanticipable field of application which will flourish. The shift to Internet-based business models will have a long tail effect and a wide variety of applications will flourish resulting in a strongly increased diversity of available products.

- **Aspiration:** A global harmonised policy approach towards the Internet should be strived for. According to Fisher, this is not an obvious proposition. Should one not rather allow for diversity across jurisdictions to see which approaches work best? However,, the conference produced a consensus on the need for a global approach.

- **Appropriate roles of governments:** At first many participants stressed that governments should stay out. But apparent consensus melted. Six appropriate roles of government were singled out: *i)* Stimulating deployment of broadband (how was unclear); *ii)* Striving to secure universal access — reducing the digital divide; *iii)* Education: governments should educate and raise skills to increase the reach and impact of digital content; *iv)* Consumer protection should be implemented (fraud, spam and spyware); *v)* Competition must be fostered (antitrust and telecom regulation); *vi)* Intellectual property should be protected but a balance must be struck between incentives for creativity and affording access.

- **Agreement:** Business-model neutrality should be strived for. Prof. Fisher called into question the viability of this approach stating that it may be attractive but infeasible as there is no way to be neutral between business models (*e.g.* the Google Publisher Programme will either be considered fair use or unlawful).

3.   Points of disagreement:

- **Description:** There was sharp disagreement on whether intellectual property rights (IPR) currently strike the right balance. Three points of view: some stating that interest-group pressure has lead to excessive protection; some adopting an intermediate position stating that recent court cases like Grokster have clarified secondary liability and that this was sufficient to clarify the IPR situation; and a third group thinking that the levels of protection and enforcement are still insufficient and that they should be strengthened.

- **Prediction:** Which business strategy will prevail was unclear (*e.g.* pay-per-view, prescription, free content and targeted advertisement)? Speakers took very different positions. Not one model is likely to succeed but several and/or a mixture of the different approaches.

- **Aspiration (here the divergence of opinions was greatest):**

  - If and how to achieve network neutrality (*i.e.* Should governments require broadband providers to provide customers access to all applications and content? Should policy strive for an open Internet or shoud it allow the rise of walled gardens?

  - It was unclear if government procurement policy should tilt available content towards an open document format?

  - It was unclear if governments should support technological protection measures (TPMs) when considering threats to privacy and the undermining of legitimate fair uses.

  - It was questioned whether interoperability should be mandated by regulation?

Day 2 Rapporteur: Luc Soete, Professor and Joint Director, Maastricht Economic Research Institute on Innovation and Technology and United Nations University Institute for New Technologies

4.   Points of agreement:

- **Diagnosis:** There was broad agreement about the speed of change in the sector, which is high, led by the availability of broad-band enabling digital content provision with a dramatic decline of (access) prices. All stakeholders have the impression to be on an inflection point of change, with fewer entry barriers to alternative players today, with as a result continuous renewal. The industry has been shaken up with a variety of new players entering with different missions and the boundaries between creative content production and creative content "consumption" becoming unclear.

- **Key features:** The most striking difference between Day 1 and Day 2 was the systematic reference during Day 2 to the word 'user' rather than the word 'consumer'. A digital content user appears to play a more active role than was the case with the traditional content industries. The "creative destruction" the content industry is confronted with as a result of digitisation appears different in two important regards from traditional industrial "creative destruction". Less capital based "creative destruction" than organisational based "creative destruction", with new value models in content production and diffusion, less based on traditional scale advantages and large up-front investment, and not so much creative "destruction" rather than creative "activation" (*i.e.* unlocking creativity) with users taking a more active role in content "creation and consumption" with user-generated content, the rise of amateurs, etc. There is a discovery of new

creativity leading to a different environment. The latter is more than just a commercial opportunity.

- **Opportunities**: The phenomenon holds many promises for a more participatory and active content society, from traditional content sectors, such as music, film making, writing, and other media, to commercial applications in interactive games, Web logs, VCast, and many amateur performances, unlocking creativity across many groups in society, not just professional content creators. One is moving away from simple passive consumption of broadcasting which has made consumers lazy "couch potatoes".

- Social, democratic, cultural growth and not only economic growth are at stake.

5.   Points of disagreement:

- **Role of governments versus markets:** There were marked differences amongst stakeholders and government representatives from different countries, as well as international organisations with respect to what they would consider to be the respective role of governments versus what can be left to the market. Compared to Day 1 that difference emerged somewhat stronger in Day 2. A large part of that difference of view seems to be linked to a different interpretation of the intrinsic characteristics of digital markets.

- **Digital Rights Management (DRM):** The strongest difference of view emerged between the main representatives of content industries, the telecom, digital hard- and software providers and the new entrants in the industry on the subject of the role of DRM, with government representatives often taking a "wait and see" position, with the exception of representatives of the national and international IPR institutions who stood on the side of the content industry representatives. For the latter some of the digital technologies such as file-sharing destroy property rights, thus the industry; for some of the new entrants copyright and DRM represent one of the biggest threats to innovation of digital content.

- **Intellectual property protection:** There was broad disagreement on intellectual property rights — and these disagreements will be key issues to deal with in future work. A topic which BIAC and the OECD will pick up in further conferences (at least that was the promise made).

- **Policy challenges and need for international harmonisation?:** There are very different policy concerns in different countries. Looking forward it will be important to find common ground, find a balance between stakeholders, and focus the issues for debate on the diversity among countries. The central question: To what extent do we find the balance between variety and the need for international harmonisation?

DAY 1

Session 1: Opening session: The importance and role of digital content: encouraging production and enhancing access

6.   Broadband is the fastest growing and diffusing technology with 144 million subscribers in OECD countries in September 2005 and an estimated 155 million start-2006, equivalent to 1 broadband subscriber for every 7.5 inhabitants. The leading OECD countries have one broadband subscriber for every four inhabitants. Next-generation broadband via optical fibre is also growing rapidly and will bring even higher speeds.

7.   With rapidly growing data transmission capacity, attention has turned to supply and use of high quality digital content, as this becomes crucial across content industries, such as media and publishing, music, film and video, games, publishing, research and news distribution. Digital content is also becoming pervasive in sectors not previously considered content producers or users. These include numerous service industries, education and health, and producers and owners of public sector information with potential commercial use, and public sector content such as archives and cultural content. Value chains for content development, production, delivery and use are changing rapidly along with the creation of new business models to exploit these opportunities. These developments raise new business and policy issues related to ensuring market environments that support development and diffusion of new digital content goods and services, promote competition and benefit users.

8.   The first session introduced the broad themes of the conference, setting the scene for discussion from business, user and policy view-points and identifying priority issues and challenges for the Conference.

Lucio Stanca, Italian Minister for Innovation and Technologies

9.   Minister Stanca was very pleased to open this First Conference on the "Future Digital Economy: Digital Content Creation, Distribution and Access", jointly organised with the Organisation for Economic Co-operation and Development.

10.   While earlier hardware was at the centre of the computing world, the centre of gravity shifted to software, then value shifted again to telecommunications networks and today, content is the focus of this great wave of innovation, the part that generates the greatest value: not only economic but also social and cultural. E-content breaks down the traditional boundaries and limitations between content and services within the ICT sector. We are experiencing a shift on a worldwide scale from a vertical command-and-control value creation model to an increasingly horizontal connect-and-collaborative model.

11.   *The need for a global approach:* Challenges that we face are global in nature, and therefore require a response of equal scope in terms of objectives, resources, strategies and methods. This will require open dialogue between different technical, regulatory, political and cultural viewpoints. This is the objective of this OECD Digital Content Conference.

12.   *Digital content and factors of discontinuity:* Technological discontinuity, driven by the spread of broadband networks, makes digital content one of the pillars of the Future Digital Economy. The promotion of digital content has been supported by two enabling factors: the spread of broadband and the emergence of new paradigms for its online distribution and sale. Others include the rise of search engines, the global scope of the network, the spread of new hand-held user devices and the expansion of wireless networks and the huge number of users which has allowed niche markets to become mass markets. This has reversed the concept of marketing from the traditional supply "push" approach to a new demand "pull" dynamic based on the plentiful availability of goods and services on line. These innovations have triggered

a virtuous circle in which supply and demand drive each other and move together towards new frontiers for applications. This emerging market is characterised by cross-industry convergence and alliances between digital content producers, television, cinema, the music industry, major Internet portals, IT enterprises and consumer electronics manufacturers in a search for synergies, critical mass and access to consumers.

13.   *The role of policy makers:* New approaches, legislation, techniques, rules and models are needed. The challenge is first and foremost a social and cultural one; it is not just an innovation in the production of economic value. The other challenge is to ensure the balanced development of the market and to safeguard the rights of the different actors in the new value chain. It is the duty of policy makers to balance conflicting interests and produce a synthesis of contrasting positions, without reducing the role of government to acting as a mere referee or a simple regulator of innovation.

14.   *The intellectual property issue:* The true capital of the economy of the future is intangible. Knowledge is an asset that intellectual property rights protect, giving it economic and market value, but they also restrict its dissemination. The trade-off between the cost of access to knowledge and its availability is a new dilemma for the economy of the future. One challenge facing policy makers is to strike a difficult balance between "protection" and "sharing"; between collective benefits and individual rewards; between collaboration and competition. The traditional regulatory approach is often inadequate, if it remains the only solution. Moreover, since this is a global issue, there is still a lack of harmonisation.

15.   *The commitment of the Italian government:* In the last few years the Government has undertaken a comprehensive, consistent broadband and digital content policy. The Government boosted private and public broadband demand with different programmes. As regards the spread of digital content, initiatives are under way involving a variety of strategic sectors (telemedicine, with the Electronic Healthcare Record project, e-Government, with access to public interest databases, the construction of an Italian tourism portal, and multimedia teaching in schools). The challenge for the government is to act as a facilitator between consumers, telecommunication operators and creative industries.

16.   *Next steps:* The government would like to strengthen harmonisation at the European level (*e.g.* Europe still has not one but 25 different regimes for the protection of IPRs). It is necessary to promote experimentation with new models for the economic use and creation of new digital content. New agreed approaches to content protection, shared practices for preventing serious infringements of intellectual property rights and initiatives to spread the culture and valorise intellectual property are needed. Another aspect regards the financing of initiatives for the balanced development of the entire field of digital content. Public demand has to be activated and make the vast information resources of government available on line. One example is Italy's effort to manage and catalogue its cultural heritage.

Donald J. Johnston, Secretary-General of the OECD

17.   The Secretary-General of the OECD recalled that just eight years ago in 1998 the OECD organised, in collaboration with the Government of Canada, a broad and far-reaching Ministerial conference entitled "A Borderless World: Realising the Potential of Global Electronic Commerce". The focus at that time was on selling online. The analytical and policy role of the OECD was firmly established as was that of numerous other international organisations and business and civil society groups who participated in the conference.

18.   Those eight years represent a period of extraordinary technological change and innovation. The convergence of networks and increased diffusion of high-speed broadband has shifted attention towards digital content and new applications, which offer new business opportunities, growth and employment. There is far greater access to a huge amount of public sector information, including archives, libraries and

museums: digital content is everywhere and it is changing established patterns of behaviour and business. As always with new technologies, there is adaptation and creative tensions and changing policy roles.

19.   On the question of infrastructure it is extraordinary how fast broadband has been growing: at the beginning of 2006, there are an estimated 155 million subscribers in OECD countries. Those OECD countries leading the pack have one broadband subscriber for every four inhabitants. The speed of access has increased incredibly. This can also be seen in other countries such as China, with which the OECD has growing important relations, which now has 36 million broadband subscribers, and 100 million Internet subscribers.

20.   Clearly the rapid diffusion of high-speed broadband has shifted attention towards content and applications, new demands and the promise of new business opportunities which hopefully will entail growth and increased employment. What in essence does this mean for our societies in terms of increased productivity, increased employment and of course economic growth? Upstream is the whole area of creation of product, and downstream there are of course technologies to assure the diffusion and application of content. Important questions include: Are some of these technologies disruptive, as they challenge established value chains and business models? Is power shifting more to consumers than to producers through their capacity to access products and services in national and international markets? Are the major concerns with respect to the role of intellectual property in protecting ownership and the management of copyright in a digital field being addressed? If not, how should they be?

21.   Mr. Johnston pointed out that in music 420 million single tracks were sold online in 2005 (156 million in 2004) which now represents 6% of global record company revenues. In games, revenues in 2001 surpassed film box office ticket sales and computer games are close to the recorded music industry in global revenues. The biggest online game, the 'World of Warcraft' now has 5.5 million customers. Today, new content is being created by network users; the so-called rise of the amateurs. One example is the creation of blogs, which amount to about 22 million not just in English but also a disproportionate share in Japanese and Korean.

22.   But entertainment is only one side of the digital content coin. Mr. Johnston regarded the other as much more significant in terms of potential growth impacts and changes in user behaviour. Online education, health, and public sector information are becoming increasingly important as is the use of digital content for government. The OECD has been working to improve access to digital research data from publicly funded research to contribute to the advancement of scientific research and innovation. Knowledge, which has always been the source of innovation and change, was traditionally imparted by long years of education and specialisation. Now online services offer massive data and information collections that surpass any traditional library or data source. The skill sets of citizens will change — citizens will need to know where to find information quickly, how to absorb that information, and how to assess its reliability and use it in a timely and well-articulated fashion.

23.   The OECD obviously has priorities for international co-operation related to digital content. The Organisation analyses and provides policy guidelines on broadband connectivity, digital content, the future of the Internet, information security and many other areas. It is crucial to improve the understanding of the implications of the development of digital content, and of the impacts of digital content on value chains as well as providing insights about the development of new business models, and of course identifying business, technological and policy approaches that contribute to a supportive environment. This work is challenging, but it is too important to ignore, and these are issues on the daily policy agenda which OECD is tackling. Governments are in need of independent analysis that involves broad-based consultation with all stakeholders, such as that undertaken in preparing in 2004 the *OECD Recommendation on Broadband Development.* A new project is being developed which will look at the potential and challenges to the

Future of the Internet and of course this includes digital content as a major driver of how the Internet is used. This Conference is a major contributor to identification and discussion of new high interest areas.

Session 2: Broadband and digital content: creativity, growth and employment

24.		This session focused on the dynamic impact of broadband rollout, its effects on content creation and distribution, and the implications for creativity, economic growth and employment. It gave a set of different perspectives on the development of broadband and digital content, and some of their wider impacts. It covered developments in Asia, North America and Europe, and drew out aspects of links between content protection and creativity, growth and employment, and impacts on skills requirements and employment.

Chair: Bruno Lamborghini, Vice-Chair Business and Industry Advisory Committee (BIAC) to OECD

25.		Bruno Lamborghini presented OECD's role as well as opportunities and challenges arising from the digital economy. The year 2005 was characterised by digital convergence with a growing number of Mergers and Acquisitions (M&As) and initial public offerings in the field of Voice over Internet Protocol (VoIP) and Internet Protocol Television (IPTV) services. New digital content applications are transforming value chains, business models and distribution channels. When critical problems related to intellectual property are overcome, peer-to-peer networks will allow the creation of new business models and open new opportunities for content production and delivery. However, the digital economy still faces some big challenges. Obsolete regulations and special interests are creating obstacles to seizing the potential behind digital content. As a unique international organisation, the OECD has a major role to play in defining proposals and recommendations on a global scale.

Dr. Chin Dae-Je, Korean Minister of Information and Communication

26.		Minister Dr. Chin Dae-Je presented the digital content industry in Korea.

27.		*Overall status of the Korean ICT Industry:* According to the IMD World Competitiveness Yearbook 2005, Korea plays a leading role in the ICT Industry. The country disposes of the second highest technological infrastructure after the United States and costs of broadband are the second lowest. In terms of broadband subscribers, Korea takes by far the leading position with 233.3 subscribers per 1000 followed by Hong Kong, China (180.9) and Canada (146.0). This high deployment of broadband in Korea is due to a high population density which facilitates the deployment of optical pipes, to an intensive competition as well as the intervention of the government by caps on prices and training.

28.		*Digital Content Industry in Korea:* The world wide digital content market size was 153.8 billion in 2004 and is growing by about 11.9% (CAGR) per year. In the Korean ICT industry, the market of digital content is the fourth biggest market with a market share of the world wide market of 2.7%. Some examples of very popular Korean digital content application include CyWorld, a personal media network service that bundles different services for 15 million subscribers, as well as two online computer games: KartRider having 12 million subscribers and Lineage as the most popular Massively multiplayer online role-playing game (MMOPRG). The Korean game industry centres on mobile and online games with a market share of over 60% in the Korean game market in 2004. In this online game market, Korea held 51% of the market share of the Asia Pacific Region. Three thousand three hundred and thirty-eight online-game companies provide 53 000 jobs.

29.		*Role of the Korean Government:* The Korean government acts as a facilitator and therefore put in place the "IT839 Strategy" which aims to promote the development of the whole ICT industry. The strategy comprehends eight new services, three infrastructures and nine products (see figure 1). The nine product areas were chosen in the face of future growth potential and Korea's core competencies. The three

infrastructures are necessary to support eight new services. One example of these new services is Wireles Broadcasting (WiBro), a portable Internet service, which is supposed to enhance the value of digital content among other services such as Digital Multimedia Broadcasting (DMB).

Figure 1.   The government acting as a facilitator - the IT 839 Strategy
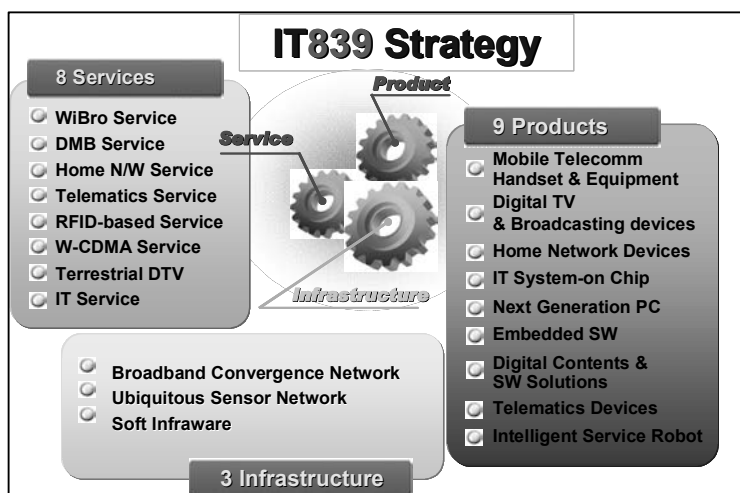
Source: Korean Ministry of Information and Communication.

Michael J. Copps, US Federal Communications Commissioner

30.   Michael J. Copps presented the role of the industry, the government and the role of the US Federal Communications Commission in a changing communication landscape. All countries are facing the same challenges which include among others the encouragement of investment in telecommunications, consumer protection, the digital divide and especially the stimulation of innovation and private-public sector co-operation which is realised at this OECD conference.

31.   The field of communications is the driver in this century as no other technology has such a profound and quick impact. Different stakeholders have different roles to play: the competition among enterprises accelerates broadband deployment and leads to competition not only within but also among platforms resulting in the convergence of industries which entails significant investments in the communication infrastructure.

32.   Governments have different tasks: first of all, they should ensure the elimination of barriers to competition rather than trying to predict which technologies or business models will be successful. Second, regulation should be clear, transparent and predicable. Third, governments have to implement policies by, for example, identifying additional spectrum and stimulating new technologies so that broadband platforms can develop and lead to better services, innovation and cost reduction. Additionally, another role of the public sector consists in protecting the open access to the Internet and its free and dynamic character.

33.   Today's focus is digital content which will be the basis for the creative industry. Distribution of this content will also play a crucial role. Furthermore, governments have to assure that all communities have access to advanced communications and digital content. The US Federal Communications commission plays an important role in assuring this through several programmes: the "universal service system" brings access to remote areas, schools and libraries. Overall, the main challenge is to develop processes to facilitate change and to make it accessible for everyone. Due to its expertise, its private-public sector dialogue and co-operation the OECD has a crucial role to play.

Marco Tronchetti Provera, Vice President Confindustria / Chairman Telecom Italia

34.   Marco Tronchetti Provera praised the OECD's work on digital content and called on further studies on content sectors.

35.   Broadband diffusion leads to a crucial revolution in modern times as it modifies access to information and determines positive economic changes. In Italy, DSL and fibre lines have increased by 215% in the last two years. All other European countries experienced a similar trend. World wide online music revenues reached USD 1.1 billion in 2005 which is a threefold increase compared to the revenue of USD 380 million in 2004. Online advertisement begins to account for a considerable quota of the advertisement sector revenue.

36.   Changes are reaching TV, cable broadcasting and traditional telecommunication operators. The development of broadband enabled the entry of new service providers that sometimes compete directly with services provided by telecom operators (*e.g.* VoIP). These new actors are completely unregulated while telecom providers have to pay for the infrastructure. This issue is currently addressed in the United States and emerging in Europe and has to be discussed. Ways must be found to remunerate the large investments made by the network providers. Concerning regulation, rules should not be transferred from the traditional broadcasting world to the new online on-demand services. A light regulatory approach should be preferred.

37.   A driver for the further development of broadband will be the capacity to address and revise existing business models and to develop an efficient regulation. It is important that the traditional content industry follows the adoption of new business models to benefit from the new developments. The adoption of legitimate peer-to-peer business models would be a good example. In general, the policy towards online distribution for film releases should be more open. This could be a way to reduce online piracy. A further key driver is the availability of different types of content (commercial, public and private) on all platforms. DRM is also an important issue to ensure the protection of content owners. However, an effective DRM system has to be flexible and user-oriented.

38.   Furthermore, contrary to physical distribution, digital distribution allows provision of a more diversified offer due to low marginal costs and thus generates a "long-tail" effect. Content is no longer distributed based on the Top Ten-rationale but distributed without boundaries and fostering thus cultural diversity. For example, online music stores offer 30 times as many songs as the world's largest physical distributor.

Rita Hayes, Deputy Director General, Copyright and related Rights and Industrial Relations, World Intellectual Property Organization (WIPO)

39.   Rita Hayes presented the importance of copyright protection and key factors to ensure a proper employment of intellectual property rights (IPR). After the adoption in 1994 of the TRIPS Agreement and in 1996 of the WIPO Internet Treaties, the IPR scene was marked by an intense international collaboration.

40.   The creative industry accounted for more than USD 3 trillion world-wide last year and in parts of the world this sector is growing faster than other economic sectors. The copyright industry provided 8.4% of employment in the United States and 6% in Singapore. The figures reveal that the creative industry has an important growth potential for further economic, social and cultural development which however strongly relies on copyright protection. For an effective employment of IPR, three key factors must be in place.

41.   *An inclusive and sound legal framework*: The adoptions of the WIPO Copyright Treaty (WCT) and of the WIPO Performances and Phonograms Treaty (WPPT) in 1996 were milestones. DRM also plays

an important role to streamline licensing. Further work is needed in promoting standards to ensure compatibility. In addition, as the issue of the IPR system is very dynamic, new policy developments to adapt to changing circumstances are required. Furthermore, the WIPO agenda includes negotiations possibly leading to a new broadcasting treaty. In establishing international standards, WIPO has four principles: a Member-driven process, striking a balance between the interests of producers and users, and the broad objectives of development, flexibility as well as including all stakeholders.

42.   *Creating a secure marketplace through effective enforcement*: Legislation and its proper enforcement go hand in hand. The development of enforcement mechanisms is a growing concern of WIPO, which established the WIPO Advisory Committee on Enforcement in 2002. Piracy is a global problem and calls for global co-operation. WIPO will be hosting the Third Global Congress on Counterfeiting and Piracy in January 2007.

43.   *Making the best use of IPR and creating an "IPR friendly" environment*. One of WIPO's key roles is promoting the development and use of IPR (including to developing countries).

Phil Bowyer, Deputy General Secretary, UNI

44.   Phil Bowyer presented three concerns of a trade union association such as Union Network International (UNI): regulation and the development of infrastructure, the need of creative classes and the fostering of jobs.

45.   *Regulation and the development of infrastructure*: Broadband via optical fibre is a key technology that was not pursued sufficiently due to complicated regulatory frameworks and the focus on short-term profits and shareholder value. As access to broadband is crucial, there is a need for a real reassessment of regulation.

46.   *The need of creative classes:* Creativity does not just happen. Creative places have some determining factors in common: they have a high degree of freedom of expression and artists are accorded a high status. Furthermore, creative professions are one of the most unionised and they flourish when intellectual property rights are respected.

47.   The foundations of creativity can be threatened by developments such as: the practise of censorship by search engines, the prevention of self-organisation / unionisation and when easier distribution leads to a degrading content quality. For maintaining quality, the above mentioned values should be protected, training of professionals has to be ensured and ways to distribute content legally have to be fostered.

48.   *Jobs:* There are two main factors concerning jobs: professionals have to be trained and this training has to be financed. Various effects of technological and regulatory changes on employment have to be assessed by organisations such as the OECD.

Session 3: Digital content opportunities and challenges: Changing value chains and business models

49.   This panel session developed the creativity, growth and employment themes laid out in the opening sessions and pushed them forward from the perspectives of different participants in the value chain. It focused on identifying the key developments, opportunities and challenges from individual perspectives in the digital content value chain reflecting the perspectives of the content industry and artists, the changing roles and challenges for the communications, broadcasting and IT industries, how the advertising industry is adjusting to online and digital content opportunities and the views of consumers and citizens on the challenges of increasing digital content distribution and access.

50.   Key questions addressed were:

- What is changing in the value chains and business models in digital content and delivery?

- What are the new opportunities?

- What are the challenges and impediments to digital content applications and delivery routes?

Overview: Hiroaki Yoshihara, Vice Chair and Global Managing Partner, Global Markets, KPMG International

51.   Hiroaki Yoshihara presented key developments in the digital content value chain as well as success factors in this dynamic and growing digital content market.

52.   Digital content is creating new user habits and a new life style. The characteristics of digital content are interactivity, instant gratification and an intense focus on individual customer needs. The digital content environment is furthermore characterised by the empowerment of consumers. Consumers have enormous opportunities to download and access any information they are looking for. Due to the explosion of distribution channels, they have an important bargaining power. As 44% of Internet users have already created digital content, consumers are actively shaping the digital content community.

53.   There are several key success factors in this digital environment: companies should make it easy for customers and new business models must generate revenue. Overall, the digital content value chain is still in a development stage. There will be intertwined business models before successful models emerge. A lesson is that the cheapest or free product does not always win. Brand management means must be intensely focused on customer needs in order to build a community behind the brand.

54.   Public policy challenges include digital piracy and taxation issues, both necessitate international co-operation. Furthermore, education is critical for the national competitive advantage.

Perspectives on opportunities and challenges:

Chair: Prof. Hal Varian, Professor, School of Information Management, University of California at Berkeley

55.   Prof. Hal Varian used the following mission statements of companies to outline the opportunities behind digital content:

- Archive.org: "Universal access to all knowledge".

- Google: "Organise the world's information and make it universally accessible and useable".

56.   As for the challenges, the main challenges are not technical in nature. They comprehend ICT literacy and the digital divide, incumbents whose activities can slow the deployment of infrastructure, and intellectual property systems which are often lagging behind technology, politics and the economy.

Linda Jensen, CEO of Home Box Office (HBO) Central Europe

57.   Linda Jensen gave the Central European point of view on commercial TV. HBO is broadcasting in nine countries and has 1.3 million subscribers in Central Europe. The Central European market has some (structural) differences compared to the Western European Market: GDP is about 15-16% lower than in Western Europe and commercial television has only existed for the past 15 years. Consumers now can

choose between 150 channels but have still a limited income. For these reasons, pricing is crucial. Furthermore, Central Europe has a substantial privacy problem. In 2005, the Hungarian Intellectual Property detected 51 000 illegal DVDs and shut down 800 illegal download sites. Illegal hook-ups (pirate users on the HBO system) are a frequent problem. Concerning legislation there are many questions unacknowledged such as if there are local content quota requirements, if cultural funds have to be paid or if it is obligatory to have a licence for on-demand services.

58.   These challenges raise the question on how digital services could be rolled-out. Market projections concerning digital households are rather optimistic: According to Informa Telecoms & Media, digital TV households will amount to about 16 million in Central Europe in 2010 (with 8 million digital households in Russia). For this year, HBO expects that one million households will go digital. As operators are rolling out very low-end digital boxes, currently it is only possible to provide a great variety of channels but no interactive services. However, 50% of HBO's customers would like to have an on-demand function; while only 10% of the customers would be willing to pay for this service. Finally, DRM software could help multiple national minorities to access legal content in their languages which is very important for the region.

Jenny Toomey, Musician & Director, Future of Music Coalition

59.   Jenny Toomey presented the view of artists and the Future of Music Coalition. She highly welcomed the discussion between different stakeholders at the conference as it is important to build compromises serving all communities. Often, these kinds of discussions happen without artists. But it is very important to make sure that they are at the table.

60.   In general, artists have many different opinions towards embracing emerging technologies. Some are relying on virtual chat rooms, open network systems and exchanging files while others are not using new technologies at all. Both perspectives are legitimate. But it is must be clear that decisions made in different areas such as legislation, business practices or emerging technologies impact the ability to make art and to have a source of revenue from it.

61.   Different belief systems together with different opportunities lead to an interesting environment where artists sometimes have the same positions as large conglomerates and, at the same time, are on the opposite site when for example concerned about issues of media consolidation. Some issues such as the effects of peer-to-peer networks or DRM are centred on the digital landscape but many more issues are centred in real world paradigms such as a basic health insurance in the United States for artists.

62.   Finally, music is not only art but also speech and, according to a PEW Internet study, 32 million Americans considered themselves to be artists. All artists both in the commercial and the amateur sector have to be considered in this discussion.

Alberto Tripi, President Federcomin, Italian Federation of ICT

63.   Alberto Tripi presented the entrepreneur's view on changing roles and challenges for the telecommunications, broadcasting and IT industries.

64.   One of the most important changes brought about by digital economy is the end of the traditional distinction between the world of content and the world of services and the emergence of merged business services. The change is driven by digital convergence implemented through the use of new technologies such as RFID, UMTS, wireless or VoIP. The size of this new market for new innovating services is hard to measure.

65.   In this environment, the use of technology and the role of suppliers will change. Additionally to traditional IT suppliers, new business entities providing new services will become key players. Besides operators from the traditional content industry such as publishers and television broadcasters, there are companies in the ICT sector (*e.g.* Web portals and software houses) which widen the scope of the sector. As new audiovisual applications are emerging, users discover new ways to experience them which leads to the need to increase and diversify the offer of content. Three main factors are driving digital developments:

- Fee-based content (purchase of a music track or a movie).

- Public content (provided for example by museums, libraries and tourism).

- Advertising (main source of revenue in the case of free services).

66.   Different services on this market experience different growth rates. Overall, the growth of the market depends highly on inhibiting factors and opportunities. Inhibiting factors include the still insufficient diffusion of broadband, issues related to payment (*e.g.* the use of credit cards) and privacy concerns. Opportunities comprehend a fair payment of authors and producers and access to a greater content quantity. In order to benefit from these opportunities, it is crucial to favour digitisation, to develop new business models and to improve communications. In order to further promote the development of e-content, industrial policy initiatives enabling a more effective market should be established as well as initiatives that spread access platforms and thus spur market growth. Overall, efforts have to be made to harmonise initiatives both by market operators and institutions to support a new cycle of development of the digital industry. Italy and France have started initiatives where all players of the value chain are brought together to pledge to certain principles allowing them to develop online business models.

Mark Read, Strategy Director, WPP (Advertising)

67.   Mark Read presented the situation of the media and communication industry from a marketing perspective. He pointed out that we are at an interesting transition point which poses an enormous threat for traditional business models in the media and communication industry. Traditional media are experiencing difficulties (*e.g.* traditional newspapers) as many of them have not often been able to generate as much revenue from new media as revenues foregone through slowing sales of the old media. The transition entails important implications for consumers and for financing content. But the transition has mainly been a great opportunity for newer media companies.

68.   All media will go digital and the Internet is becoming a pipe for this content. At the moment, the Internet delivers mainly to computers but in the future it will deliver to radio and TV. This development has important implications for advertising: as consumers can easily skip messages, traditional television advertisement will not reach a high number of viewers anymore. This will apply for all media which then makes it difficult to fund content by traditional advertisement schemes devised for traditional media. Rather all new media will have built-in response mechanisms that allow advertisers to track audience reactions and attitudes. More transparent ways of paying for advertisements will surface as advertisers have a better feel for the value generated from advertisements. Interactive and other forms of targeted advertising will also reach other media such as television.

69.   A way to absorb advertisement losses is to get consumers to pay for the content (like the UK broadcasting industry which earned over 50% of its revenue from subscriptions). The challenge consists in finding appropriate business models such as prepayment systems to get people to pay for the content.

James Love, Director, Consumer Project on Technology

70.   James Love presented the consumer perspective on the protection of access to knowledge goods in the future digital economy. The Consumer Project on Technology is a non-profit consumer organisation focusing on access to knowledge and Intellectual Property.

71.   *TPM/DPM systems*: Technical Protection Mechanism (TPM) and Digital Protection Mechanism (DPM) systems respectively are designed to lock up content and the use of content so that the person putting the lock on can control if a document is used and how it is used even when for example the content is not protected by copyright or when the copyright owner is unknown. These TPM/DPM systems have their biggest impacts on consumers and not on counterfeiters who are able to break these systems. TPM/DPM systems should be regulated proactively before they can profit from legal protection. This means that TPM/DPM vendors should be required to seek approval before their protection system is put onto markets. It should be evaluated whether the lock itself meets standards of public policy. Approval should only be given when TPM/DPM systems are the least restrictive way to protect legitimate interests of copyright owners.

72.   *WIPO Broadcast/Webcast Treaty*: The WIPO Broadcast/Webcast Treaty would be the wrong paradigm for access to knowledge for several reasons: it would expand the "Rome" convention type protection of broadcasters to the Internet and base the protections upon investments in distribution rather than in creativity. The treaty would protect "Webcasting" activities and would introduce a new layer of property rights for information disseminated on the Internet.

73.   *Open document formats*: Open document formats are crucial since the monopoly in word processing, presentation graphics and spreadsheets software is harmful and leads to high prices and less innovation. Until now, competition authorities had no effective control power in this field. In order to promote competition a good strategy would be to use government procurement focusing on standards, in particular on document standards.

74.   *Creating global frameworks for access to knowledge*: Global frameworks should be created to support public goods. It is not enough to slow down bad proposals in the area of intellectual property but it is necessary to create new treaties to promote access to knowledge. The WIPO proposal referenced in the WIPO development agenda is a Treaty on Access to Knowledge. A newer idea is the creation of a WTO General Agreement on Public Goods.

Sessions 4 and 5: Perspectives on new developments

75.   These parallel streams focused on supply-side (stream A) and user perspectives (stream B).

Session 4A: Supply-side perspectives: New platforms and content delivery opportunities

76.   The presentations and discussion focused on identifying, from various supply-side perspectives in the digital content value chain, the emergence of new delivery platforms including triple and multiple play, mobile and wireless, and the "digital home", focusing on development and interactions of content and platforms along the supply side value chain.

77.   Key questions addressed were:

- How are new platforms developing, what is working, what is not?

- What is beyond triple play? What new roles are there for mobile and wireless platforms? How do these interact with the development of the "digital home"?

16

- What are the impacts of new platforms on the delivery of content such as games, music, video, news, information and other content? What are current and likely trends?

Chair: Ben Keen, Chief Analyst, Screen Digest

78.   The business of generating content revenue from broadband in Europe is forecast to grow significantly (see figure 2). While currently broadband content is still overshadowed by traditional 'off-line' revenues, growth in the United States and European Union between 2005 and 2010 is expected to be strong in music, movies, games and TV.

Figure 2. Revenue from broadband content for Europe and the US
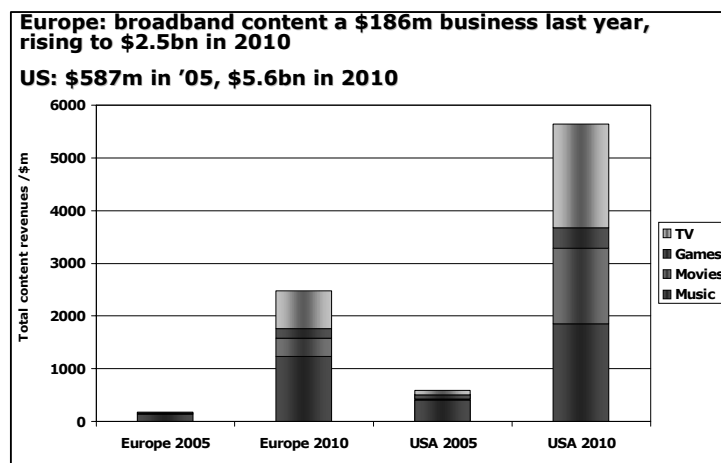
Source : ScreenDigest.

Yozo Omori, Executive Director & Board, Mobile Content, Index Corporation

79.   Index Corporation began its mobile business in 1997 and contains more than 50 companies today. The business is divided into four business categories (Mobile & Broadband Business, Contents Business, Media Business and International Business) and includes the following media services: content distribution, content procurement, business relations (with existing advertisers, broadcasting, etc.) as well as global expansion. Furthermore, Index includes Video Object (VoB) and broadband IP network channels enabling the distribution of the company's content. As IT media conglomerate Index is financially very strong and can more easily coordinate the different functions of the value chain.

80.   *Japan's mobile phone industry structure*: Ambitious technology innovation and the awareness of user needs are the foundation of the mobile phone sector. Turning technologies into usable commodities has been instrumental to service expansion. Japan's advanced mobile phone industry comprehends carriers, content providers and handset makers. The three leading carriers are NTT DoCoMo, Vodafone and KDDI AU. Handset makers such as Panasonic, Toshiba or NEC are building the device bridge between carriers on the one hand and content providers on the other hand. The content market scale is JPY 223.3 billion yen; advertisement revenues amount to JPY 10 billion. Future growth will depend on electronic payment solutions and service co-operation with distribution and other traditional businesses.

81.   *Development of the industry:* Mobile phone technology is passing from 2/3G to 4 G which accelerates communication. As communication increases, the demand for rich content increases (passing from static to dynamic and to increasingly rich content). Therefore, an efficient (and consequently reasonably priced) transmission system is required, *i.e.* bypass through a hybrid transmission and

broadcasting system. The industry is capitalising on TV channels with rich content based on the convergence of broadcasting and IP networks.

Arndt Rautenberg, Chief Strategy Officer, Deutsche Telekom

82.   According to Arndt Rautenberg, the telecommunications industry is entering a new phase. Alternative business models from both portal players and new VoIP-service providers are arising and capturing more and more value. Whereas telecommunication operators have developed deep network and communication services competencies over time, new players centre their services (VoIP, value-added services) around the Internet Protocol. The trend comes with both threats and opportunities for traditional telecommunication providers. Stable business models are being replaced by movements along the telecommunication value chain.

83.   Four types of strategic moves are undertaken by IP based players:

1. VoIP and IM (Instant Messaging) integration (*e.g.* Microsoft, MSN)

2. Telecommunication partnering (*e.g.* Yahoo!, BT)

3. Multi-access IP services development (*e.g.* Nokia, Motorola); and

4. VoIP players partnering.

84.   These moves lead to an expansion of formerly 'pure play' value chain positions to increasingly complete service offering portfolios (*e.g.* acquisition of Skype by eBay). As the IP service layer is a source of significant future value creation (which does not necessarily mean profit creation) for telecommunication operators, the traditional telecommunication business is experiencing a value shift towards IP. The strategic imperative for telecommunication operators is thus twofold. It consists in conquering new business in the IP layer, and defending traditional core businesses while becoming a leading access and platform provider (providing access, connectivity, content, payment, intellectual property right clearance, etc).

Donald M. Whiteside, Vice President Corporate Technology Group, Intel

85.   Donald M. Whiteside presented technology trends as well as the user and industry perspective on the digital economy.

86.   Digital content is at the centre of the technological revolution. There are two technology trends: everything goes digital, everything goes IP. The transformation of convergence has happened for successive generations (the younger ones being the consumers of tomorrow) and the industry has to adapt to these consumer needs. From a user perspective, transformation occurs in various fields of activity (work, play, communicate, home management, health, etc.). From an industry perspective, convergence redefines all industries leading to a tremendous wealth of opportunities (convergence of content, consumer electronics, services and personal computing). "Convergence Darwinism" is happening: technological innovation abounds because new standards, new services as well as new products are emerging. There will be losers and winners.

87.   From a legislative point of view, the challenge is to establish policies, regulations, and standard approaches that nurture new innovative options (or risk having these innovations occur in other parts of the world). The following policy tensions arise: Network neutrality versus service discrimination? Walled gardens versus open/interoperable services?

Luca di Mauro, Chief Economist, Sky Italia

88. Luca di Mauro presented the traditional setup of a media company (see figure 3). The chain starts with the programming or content provider and ends where the end user is reached via the retail market over a technical platform.

Figure 3. The analytical framework for a media company

Programming Provider	
Rights Holder	□
Wholesale Market	
W/S Exchange	□
Retail Market	
Sale to End-User	□
Platform	
Technical Distribution Services	□
End-Users	
Household Equipment	□
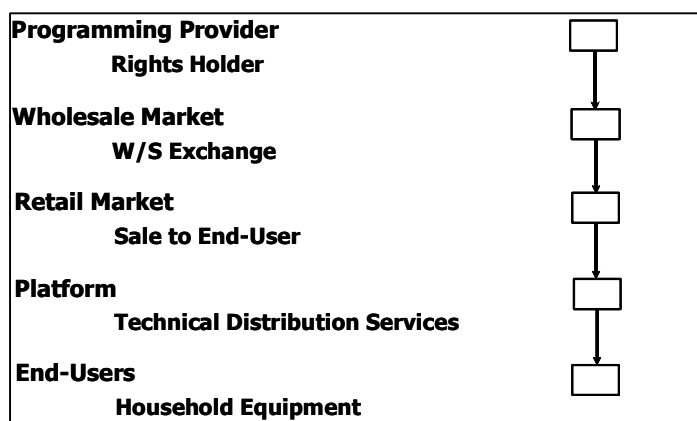
Source : Sky Italia.

89. The interesting question in this value chain is how to improve the development of the industry and its possibilities to serve the end-user. The objective is to maximise social welfare by tackling market failures, creating conditions for enhancing diversity and plurality, and essentially ensuring a level playing field while keeping in mind that the end user should be at the centre of the industry.

90. In the media industry, no market failure exists thanks to contestability of rights and exclusivity providing the right balance. But it is evident that market failure exist in many electronic communications markets (*i.e.* distribution of content) because of high barriers to entry in infrastructure, a muted degree of competition (especially in Europe), powerful network effects (negative externalities) and a legacy of still dominant public monopolies. Enhancement of competition in distribution of content (as it already exists in the creation of content) would lead to technological innovation needed for content distribution.

Jung Ju Kim, CEO Nexon Corporation, Multiplayer games

91. Jung Ju Kim presented the growing importance of games as a content category. Nexon is a creator of multiplayer games (thus, a content creator) following an innovative "item-selling" business model. While the core-structure of a game (*e.g.* CrazyRacing, KartRider) is freely accessible on the Internet by the players, some items in the game (*e.g.* cars) have to be bought by them. The company generates profit by item sale and furthermore, by co-promotion partnerships with global brands (*e.g.* Coca-Cola, BMW, etc.).

92. Beyond economic aspects, the game represents a social network and a virtual world for the users, where they regularly spend a significant amount of their time establishing contact with other players, dealing with the bought items and even reselling these items.

Didier Huck, Vice President, Public Affairs and Regulation, Thomson

93.   Didier Huck presented four examples of new content delivery opportunities: digital cinema, Video-on-Demand (VOD), mobile video (sub-set: Mobile TV) and corporate video networks. These new digital delivery opportunities entail complex new processes and necessitate new services to ensure the safe and high-quality transfer of content (digital content capture, preparation, post-production, encryption/encoding, security, key management, reformatting satellites, digital distribution networks, digital projectors, etc.). Figure 4 depicts the process for digital cinema.

Figure 4. Digital Cinema
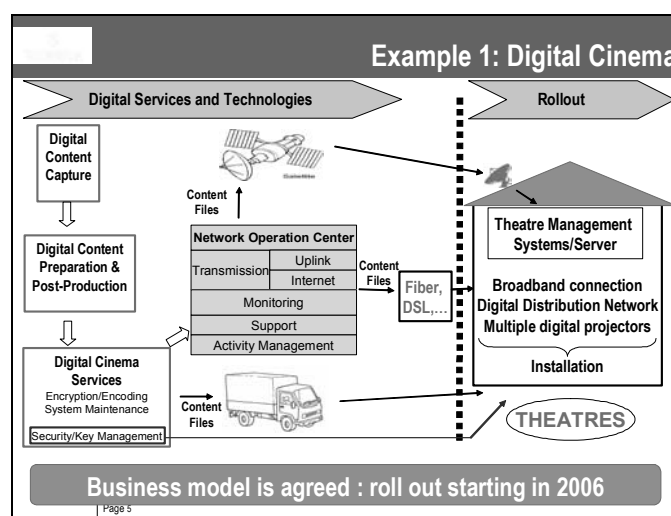
Source : Thomson.

94.   Another example is VOD which can take multiple forms: *i)* Network VOD: Cable, Telcos, ISPs which is high quality, user-friendly experience and has extensive catalogue, *ii)* Push VOD : Satellite, Terrestrial with high quality, user-friendly experience but catalogue limited to storage capacity of personal video recorder, *iii)* Pay-Per-View: Satellite, Cable, Telcos: High quality, not real time. This is done through web streaming or download by content owners, broadcasters. It is less user friendly: PC based, lower quality, *iv*) Pod-casting: same as key per view for portable devices. There are also increasingly needs for corporate video networks (like in the case of Wal-Mart). In many of these scenarios the worlds of mobile telecommunication and television are converging.

95.   The key enabling elements in electronic content distribution are increased digitisation, the multiplicity of viewing devices formats and resolutions, increased demand for consistent high quality experience and Digital asset management systems (and associated metadata).

96.   When as compared to earlier, technology and content are experiencing changes:

- *Technology:* new network standards: DVB-H/ T, 3G / UMTS, WiFi / Wimax, new security standards, authentification, accounting, clearing and needs for interactivity.

- *Content:* Different framing (reformatting has to take place almost in real-time to adapt the content to different formats), different length, different advertising, different interactivity and cross-selling.

97.   Content protection will be key to developing the business. Furthermore, business related to new content delivery opportunities is based on content protection which will not come from a single technology solution but from a variety of solutions which - when combined - can prevent piracy. These solutions include:

- Encryption: protection.

- Digital Right Management : manage content rights and access.

- Fingerprinting and Watermarking: tracking and authentication of pirated copies.

- Camcorder-jamming: against in-theatre bootlegging.

98.   Multiplicity of content protection offers and the requirement for a seamless experience from consumers lead to DRM interoperability requirements.

99.   The existence of needed technology for digital distribution does not mean the automatic rise of working business models or the automatic uptake of the products by users.

100.   Uncertainty of the business model as well as of the distribution channel form prevails (especially if many solutions are available). Different interests among stakeholders aggravate these uncertainties. Attempts to disintermediate network operators are frequent. In the area of mobile video, technology brought plenty of solutions but many different standards (3G, WiFI/WiMax). Interests between stakeholders are radically different, especially between operators and content owners.

101.   Furthermore, content has to be made accessible to the customer. Broadband operators need to differentiate service offers. Content Access Products (dual / triple / quadruple play) are a key differentiator for network operators and home networking is key to extend the reach of operators within the home. Finally, there is also a need for interoperability which necessitates agreement upon a reduced set of standards to create mass market momentum and adoption.

102.   The following options are available: *i)* Sold in package (Subscription VOD) with teasers to sell premium packages. *ii)* Sold "a la carte", *iii)* Free to monetise other services. The cross-selling of logos, ring-tones, merchandising linked to content is also part of new business models.

Discussion

103.   *Question to Arndt Rautenberg (Deutsche Telekom):* Does the market failure really lie with network providers as presented by Luca di Mauro?

104.   *Answer:* Along the value chain there is a multitude of things that can go wrong. The key success factor will be to ensure interoperability on the technical and commercial level. We need an access agnostic platform to tie all this content, services and its providers together. The market is big enough to sustain many businesses, but we need a certain level of co-ordination and shared beliefs. The industry is creating a big hype and must try to live up to it.

105.   *Question to Donald M. Whiteside (Intel)*: Explain further the points on multiplicity of standards, service offerings and the Darwinist process.

106.   *Answer:* Innovation leads to unique and new products. The process of innovation requires that there is no monopolistic market, for example in the area of standards. But whereas there is a wonderful opportunity in voluntary standard space, it is unrealistic to try to agree on a single global standard. This has

been demonstrated by the tremendously difficult cross-industry efforts aiming to agree on a limited number of standards, codex, etc. Firms like Intel are trying to provide interoperability between disparate devices. Mr. Whiteside does not believe that it is the role of policy to choose between winners and losers (certain standards) by regulating/legislating.

107.   *Question to Yozo Omoro (Index):* What are key obstacles to your business?

108.   *Answer:* In terms of market size Japan is about two years in advance of the rest of the world. What we fear the most are 15 year-old girls that like or dislike our products. These young girls are the benchmark that creates a market or not (12 billion yen). This development is difficult to manage.

109.   *Question to Jung Ju. Kim (Nexon):* Is the focus of the game industry only on male users?

110.   *Answer:* No. Nexon provides a variety of titles addressing different target groups, including girls.

111.   *Question to Luca Di Mauro (Sky Italia):* Will walled-garden approaches (as pay TV) manage to stay competitive parallel to open networks?

112.   *Answer*: It is consumer choice which makes certain business models more successful than others. The walled-garden model can only be sustainable when consumers chose it. But pay TV may be seen as a walled garden only as regards the technology used. The future strategy of Sky Italia is directed towards an open business model (see recent acquisitions).

113.   *Question to Didier Huck (Thomson):* Can you say more regarding mobile video, which seems an interesting new business where many players will want the largest share of the value.

114.   *Answer*: As consumers are seeking enhanced access, mobility is pushing new developments. Certainly different stakeholders have different interests when competing to occupy spots on the mobile content value chain. It is still uncertain how the outcomes of this competition will be structured. In terms of policy, one big restriction is frequency allocation. Regulation will be needed to sort this out.

115.   *Question from Abdul Khan (UNESCO)*: What is the future of public service broadcasting in a multi-platform environment?

116.   *Answer by Yozo Omori*: I have presented the one-segment TV broadcasting today. A mobile phone is a device which can accept the signal of one-segment broadcasting. Public broadcasting is very beneficial in terms of providing information that needs to reach a broad audience at once: for example, information on natural disasters (earthquakes, tsunamis). This is one direction that future public broadcasting could take. Before mobile devices you only had TV which you could not take with you in case of disasters.

117.   *Question from James Love (Consumer Project on Technology):* In the area of patents and standards: China introduced a discussion in the WTO wondering about how patents on standards create non-tariff trade barriers. Are there not problems with patents on standards? Do institutions like WTO or WIPO have something to add to this debate?

118.   *Answer by Donald M. Whiteside*: Intellectual property rights are increasingly becoming a visible challenge. Intel participated in a standard specification exercise, but later found out that IPR royalties were so high that as a result access to this standard was prohibitively expensive. However, by asking WTO/WIPO to join in, one may be asking for medicine worse than the disease. It is true that IPR royalties amount to significant sums and that regulatory oversight over IPRs from WIPO, etc. represent a valuable contribution. But we run the risk of devaluating IPRs, when we start talking about regulatory concept like

compensatory licensing. IPRs are the heart of innovation and we do have to give inventors/investors the possibility to negotiate value for their invention.

119. *Answer by Didier Huck*: It is always the question of right balance. One has to ask what the appropriate level of royalties is which can be supported by the ones using the invention in order to develop the market, to ensure adoption of the invention, and payment of the royalty.

120. *Question by the Canadian government*: What approach should the government take in the area of convergence?

121. *Answer by Donald M. Whiteside*: Convergence is challenging existing regulatory regimes. There is opportunity through concepts such as technological and net neutrality for regulators around the world to monitor the evolution of this market place and detect market failures. But Whiteside suggests not regulating the market in advance.

122. *Answer by Luca di Mauro*: He agrees on the need of governments to monitor effective competition and to ensure technological neutrality. Useful proactive approaches from the government could be the creation of fora where companies and government could meet and exchange in view of creating efficient market place solutions (see developments in Italy and France).

123. *Answer by Donald M. Whiteside*: Mr. Whiteside mentioned the existence of copy levies on digital products and other hardware devices across Europe. He stated that it would be proactive and beneficial to reform these existing levies (*i.e*. abolish the levies) in order to encourage the development of DRM-based solutions.

Session 4B: New user habits and social attitudes

124. Market development is driven by the interaction between technological potential, commercial innovation and socio-economic acceptance and uptake of new goods and services, even if the supply side is offering a wide and rapidly changing array of digital content and delivery platforms. This stream focused on the demand, access and use side for digital content and how the demand and use side potentially influences content development and distribution to match demand and use.

125. Key questions addressed were:

- Are there new socio-economic and demographic drivers of content demand? What are they and how is the supply side adapting to these demands?

- Are completely new demands and markets developing for content, or is it largely digitisation of established content (audio, video, entertainment, news, etc.)?

- To what extent is the rise of multiplayer online games and new online communities (blogs, creative projects such as Wikipedia, games) a major phenomenon?

- Are these demand and user side phenomena a sign of enduring change – or ephemeral fashions?

- What is the impact of user-created content and are there bottlenecks to its creation and diffusion?

Chair: Urs Gasser, Professor and Director, Research Center for Information Law, University of St. Gallen

126.   Urs Gasser identified three main objectives for the session: *i)* Provide a current picture about the user access to information, knowledge and entertainment; *ii)* Analyse of the impact of the changes on the information eco-system; and *iii)* Identification of key challenges.

*David Day, Managing Director EMEA, Nielsen//NetRatings*

127.   David Day presented new user behaviour and impacts on content development and distribution for Europe. Today, more than 150 million Western Europeans have online access and this figure is growing. The Internet is still mainly accessed at home or at work, with access from Internet cafés growing. In terms of access devices, the Internet is mainly accessed using computers but access by mobile phones is growing. The typical online behaviour of Internet users consists in the following activities (in decreasing priority order): mainly search, consulting general interest and portals, using Internet tools and Web services, using mass merchandisers, using sites from software manufacturers, consulting classifieds and doing auctions, using broadcast media, using e-mail, using financial services, etc.

128.   Overall, there are four important issues at this digital development stage: *Bandwidth* plays a crucial role. In comparison to narrowband, the use of broadband increased the time per person spent on-line by more than 100%. Concerning *user patterns*, the requirements of people are different depending among others on their platform and location. There is no typical Internet user. *Content ownership and legal challenges* constitute the third issue. Important questions deal with the ownership and the validation of content and how to manage the legal challenges in the situation where every Internet user can be a publisher. Finally, there is the issue of security. Governments and other institutions should tackle the question of security (*i.e.* how to adapt legislation in order to protect citizens and users).

John B. Horrigan, Associate Director, Pew Internet & American Life Project

129.   Since 2002, the number of adult broadband users in the US has tripled to reach now 36%, *i.e.* 70 million Americans have broadband access. John B. Horrigan presented three patterns of the broadband Internet use in the United States: *i)* home broadband users are content creators and managers, *ii)* they consume a wide range of online information (news, medical information, etc. while increasingly relying on the Internet for news and information and *iii)* they were using the Internet intensively for a variety of online activities (*e.g.* gaming and entertainment as well as for satisfying their creative needs - like blogs, sharing creative work on-line and using / distributing online content, see figure 5). The implications of the study were that open access was consistent with the behaviour of early-adopters of broadband and that upload and download speeds were important.

Figure 5. Content creation, broadband users, by age (December 2005, % in age group who have ever done activity)
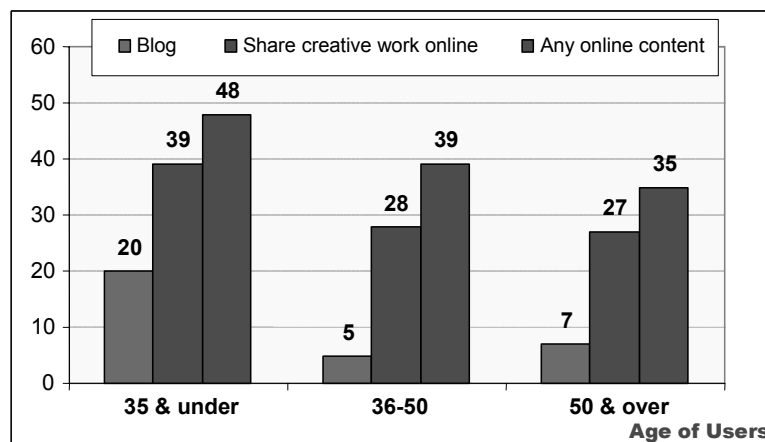
130.　　Overall, the impacts of broadband are greater for the younger age group. However, the impacts are also widespread in the older age group as 35% of the users aged 50 and more created online content. Concerning the 'high-powered' online users[1], 71% are likely to turn to the Internet for news which is more than for TV (local TV news: 59%). This is the first time that the Internet is the most likely place for gathering news. Overall, the Internet is more and more embedded in people's lives and we are at an inflection point for the Internet's impact on governance and civic life. Maintaining an open Internet is crucial.

David Sifry, President, Technorati

131.　　David Sifry presented the development and the measurement of blogs. In January 2006 there were more than 26 million blogs and about 75 000 blogs were created daily. Since 2003, the number of blogs is doubling approximately every 5 months. Daily blog posts, *i.e.* the entries on a blog, are measuring the daily blogging activity and have reached the number of 1.2 million which equals about 50 000 postings per hour.

132.　　Figure 6 plots the language distribution of blog posts for the month of January 2006 and shows the growth of the Asian blogosphere. 41% of all posts were written in Japanese compared to 26% posts in English and 14% in Chinese. For the first time, English is no more the dominant language of blogs which highlights the internationalisation of blogs.

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[1] Definition: High-powered users are those home broadband Internet users who said they did, on the average day, four or more online activities asked about in Pew's December 2005 survey; the median number of activities was three. Such users are early home broadband adopters. For more see John B. Horrigan, *Online News: For many home broadband users, the internet is a primary news source*. Available online at www.pewinternet.org.

Figure 6. Distribution of blog posts for the month of January 2006
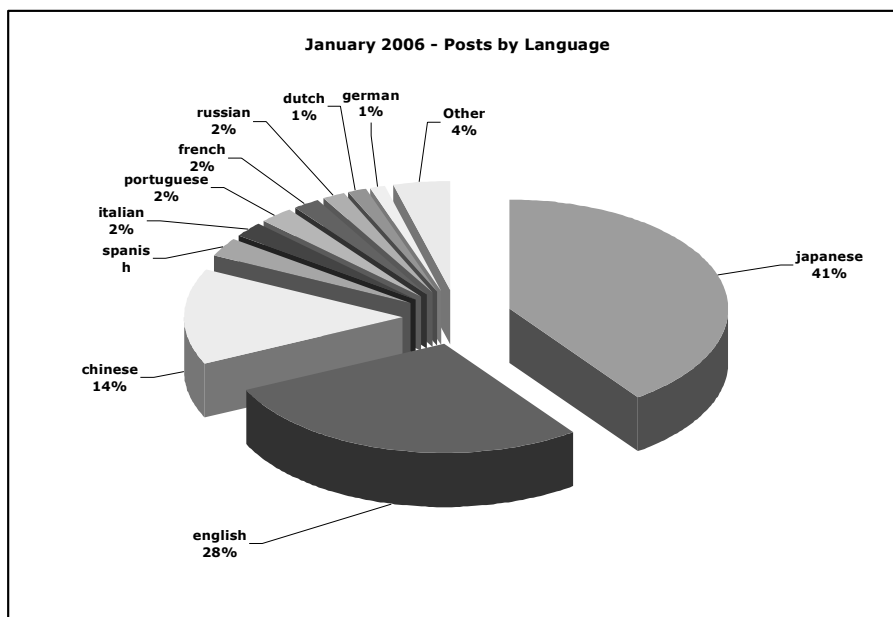
Source : Technorati.

133.   Finally Sifry showed the impact of blogs on traditional media. The largest groups of the mainstream media still get most of the attention but there are four blogs (Boing Boing, Engadget, PostSecret, daily Kos) in the Top 35. This shows how present blogs already are in current media consumption and potential impacts on traditional media.

Frieda Brioschi, President, Wikipedia and Wikimedia Italy

134.   The group Wikimedia comprehends eight projects:

−   Wikipedia: online encyclopaedia.

−   Commons: repository of images, sounds and videos (more than 400 000 files).

−   Wikinews: news source containing reports by citizen journalists from many countries.

−   Wikisource: collection of published works in the public domain or under free licenses.

−   Wikiquote: collection of quotations from notable people and creative works.

−   Wikibooks: collection of free educational textbooks and learning materials.

−   Wiktionary: dictionary cataloging meanings, synonyms, etymologies and translations.

−   Wikispecies: directory of species data on all other forms of life.

135.   All projects of the Wikimedia group act from the assumption that collaboration among users will improve the quality of articles over time. They are relying on a wiki engine - software allowing anyone to

add and edit content and guaranteeing a rapid updating of existing topics. Furthermore, decision making on the content and editorial policies is by consensus, occasionally by vote.

136. The Wikipedia project now contains more than 3 million articles in over 100 languages (Encyclopædia Britannica has 120 000 articles). German Wikipedia is also published on CD/DVD and the group is working on a print version of Wikipedia because of the digital divide. In addition to the general rules of all Wikimedia projects, the Wikipedia project has two key rules: the rule of having a Neutral Point Of View (NPOV) when writing and editing articles and the rule of free licensed content. The advantages of the Wikipedia project include a potentially infinite number of contributors, the free character as well as the possibility to fix errors or update articles quickly. Disadvantages comprehend the absence of a top-down planning and systematic review process, differences in quality and the fact that modifications go directly on-line. Furthermore, the coverage of topics is not always proportionate to their importance.

Jens Uwe Intat, Vice President and General Manager Europe, Electronic Arts

137. Jens Uwe Intat presented the perspective of the game industry and highlighted how the developments in the entertainment industry and changing consumer behaviour are influencing each other respectively. Overall, there are three main trends in the industry:

138. *Interactive entertainment is taking away viewers from other entertainment mediums.* Today, more than 90% of people under 25 play some form of videogames a week compared to about 50% five years ago. As a consequence, the consumption of traditional entertainment mediums is substituted for by video games. According to a Ziff Davis survey a quarter of people playing games reduced their TV consumption by more then 10% in the past 12 months. As the gaming industry gets thus a larger audience, it is getting very attractive for advertisers.

139. *Diverse content in games reflects a growing and changing demographic of users.* The content of games is growing in maturity. The average age of a gaming customer is 28 years but only 15% of all games today are rated 18+ years. This percentage may grow over time and the games on offer will be diversified by the industry as the number of people who are familiar with video games will overwhelm those who are not. Next generation game consoles contribute to this development by offering diverse content and better graphics. As the industry is aware of its responsibility, it promotes an easy way to evaluate content appropriateness for a given age group but retailers and parents also have an important role to play.

140. *Speed of technological innovation in the game industry is much faster than in other entertainment industries.* Many of the most successful games have annual or bi-annual sequels which provide new experiences in images and play. Compared to these developments in the gaming industry, the film business has not experienced major advances in the last 100 years and does not allow similar new breakthrough experiences as games do. The next generation games allow the interaction of consumers inside fully-fledged open-worlds and allow more and more experience sharing with other gamers.

Discussion

141. *Question:* Do we have data on content creation in Europe?

142. *Answer by David Day (Nielsen//NetRatings):* Yes. The data confirms the trend to content creation. The phenomenon of blogs is very popular everywhere and you see very similar patterns in Europe as in the United States especially with respect to differences in use between broadband and narrowband activity. Broadband allows adding value to pre-existing content and by user activity the value of networks is increased.

143.   *Question by Andrew Wyckoff, OECD:* Is there any changing behaviour because of growing and severe security threats such as fishing, farming and spam?

144.   *Answer by John B. Horrigan (Pew Internet & American Life Project):* Pew conducted *a* study in summer 2005 about the prevalence of spyware among US Internet users. It showed that a substantial number of Internet users are affected by spyware. Only a minority of Internet users have modified their use of the Internet. To the contrary, a large number of Internet users have taken measures to protect themselves against spyware.

145.   *Question by Mark Cooper (Consumer Federation of America):* Where do Internet users go for news (only traditional sites of broadcasters or where)?

146.   *Answer by John B. Horrigan:* Mostly users draw on the news sites of portals (Yahoo!, Google) that are packaging traditional media followed by traditional media sites such as CNN or the Wall Street Journal. But there is a significant percentage of users (20%) who are going to alternative sources (*e.g.* 9% to blogs). But one should look beyond the frequency on the sites users go to and wonder how alternative sources are changing the system of news gathering and production. The question is if young users will go to traditional news sites?

147.   *Answer by David Day:* Most people that go to online news sites tend not to buy an offline newspaper anymore. This is a phenomenon to be watched over time.

148.   *Question:* What actions are undertaken right know in defence of network neutrality?

149.   *Answer by John B. Horrigan:* As a non-profit organisation Pew does not take decisions on these policy issues. But one can say that an open Internet is consistent with users' behaviour and their needs. Walled gardens are not acceptable and the principle of network neutrality seems to be an important one for users (in particular the high-end users).

150.   *Question:* More and more broadband users are feeling the stigma to admit to the unauthorised downloading on filesharing networks due to increased lawsuits and enforcement in the area. How does this affect the statistics; *i.e.* the willingness of users to admit to P2P use in surveys?

151.   *Answer by David Day and John B. Horrigan:* Both pointed out that it is also increasingly difficult to separate legal from unauthorised music downloading in the statistics. In the latest PEW Internet survey (December 2005) 24% of Internet users are saying that they are downloading music. The number is increasing because people are paying for downloaded music so they are more willing to admit it to PEW. In the statistics, the legal activity has had a clear effect on decreasing unauthorised downloading, although it is not clear if part of this decrease is due to the fact that a decreasing number of people are willing to admit to it in surveys.

Session 5A: Creation and access to content and the role of new commercial agreements

152.   Reorganisation of value chains is restructuring the interaction between digital content creation and delivery. Potentially, content creators and suppliers are moving downstream into distribution and direct contact with customers (games, music) and publishers and distribution platforms moving upstream into content creation (video). Competitive access to digital content is an important condition for new platforms to grow and compete with established platforms.

153.   Key questions addressed were:

- What are the main structural shifts being experienced along value chains?

- To what extent are content creators moving downstream into distribution and distribution platforms moving upstream into content creation?

- Is the role of intermediaries changing and what is the impact on content creation?

- Are these shifts changing business and revenue models and commercial agreements?

- How do new platforms perform in terms of access to content; are there particular bottlenecks to content access and delivery from these platforms?

Chair: Jean-Jacques Sahel, UK Department of Trade and Industry / Chair OECD Working Party on the Information Economy

154.   The future can be predicted to a certain degree and this session addressed how to harness the power of the fast-moving digital economy.

Andrew Burke, CEO British Telecom Entertainment

155.   Andrew Burke presented the broadband perspective. He presented the activities of British Telecom (BT), the situation on the market as well as challenges concerning the deployment of TV over broadband.

156.   Four entertainment elements have to be fused in broadband in order to create viable content propositions in the United Kingdom:

- **Market**: Characteristics on the market side include the fact that everything is going digital and moving to bytes. 'Long tail' content, *i.e.* content that cannot be broadcast and transmitted over TV is playing an important role as well as personal video recorders changing consumers' expectations and behaviour.

- **Broadband:** Broadband penetration reached 99.9% of households in the United Kingdom, speed is getting higher and prices are dropping. But despite high broadband penetration in the United Kingdom, only two-thirds of all British households have a computer ('the PC glass ceiling').

- **Customer needs**: Consumers are now used to choice and convenience (true simplicity is needed for consumer devices and services). Furthermore there is a shift in control from the market to the consumer: the consumer makes decisions of what on watch and when to watch it.

- **Technology**: On the technological side IP enablement, video compression (which allows delivering DV- like quality online), DRM and devices are crucial.

157.   There are important developments in the field of content over broadband. Services are becoming more sophisticated but from a consumer perspective they are getting too complicated which leads to new support functions. Furthermore, Voice over IP is getting mixed with content more and more. At the same time greater new security issues arise that need attention. In terms of new services, content providers and the users are increasingly in need of good technologies and means to manage their content (personal content managers, virtual content libraries, etc.)

158.   *BT's next generation TV*: BT took existing broadcast technology and broadband and created a hybrid which is mixed in a set-up box for television. This includes a Personal Video Recorder, a vast

Movie Library, Catch-up TV, Interactive TV and Communication Services. For the supply of content BT is relying on a partner – Freeview – with broadcasting expertise.

159.   *The birth of the citizen publisher*. According to a PEW Internet study, 50% of all American teenagers make, remix and share content on-line. 50% of online teens download music, 20% remix others' digital material into their own creations, a third download video and 20% of them have a blog. This new phenomenon has to be considered in earnest by telecom operators.

160.   *Challenges from the UK perspective*: OFCOM is conducting consultations in the area of intellectual property rights in the production sector. Essential questions are *i)* Who should hold digital media rights (*e.g.* VOD rights)? Producers or broadcasters? In the current environment, rights stay with producers but broadcasters take holdbacks, thus causing a rights log jam; and potentially hundreds of deals to negotiate with individual Producers. A problem relating to intellectual property rights is that programmes have not always been previously cleared for video-on-demand rights. Moreover, the windowing system for both film and sometimes TV and the complicated payment structure create difficulties. Additionally, existing agreements with other platforms may limit the content provider's ability to licence its own programming to other platforms (as frequently content providers do not want to cannibalise their pay-TV revenues). Finally, the industry is threatened by European regulation which could restrict innovation. Putting existing legislation designed for broadcasting to non-linear content (as possibly proposed in the revisions to the Television Without Frontiers Directive) prevents innovation in Europe.

Stefano Parisse, Director, Fastweb

161.   Stefano Parisse presented the experience of Fastweb in dealing with content providers, highlighted what the company has learned during the last five years and provided an overview of actions that can stimulate the growth of the new digital content industry.

162.   Fastweb, created in 1999, is an IT network which serves customers providing triple play services (VoIP, Internet and television). Distribution of content, especially on televisions, is an interesting value proposition for consumers: consumers can access content when they want and choose what kind of content they want. In this on-demand service, niche markets can be included and the offer on demand also includes non-TV services (such as games or voice mail). As Figure 7 shows there are also important benefits for industry players which entail a greater revenue potential for content providers and advantages for advertisement spenders. Fastweb has different experiences with these content providers. Some content providers envisaged the advantages of digital distribution and agreed on value-accretive commercial agreements, others continued to apply traditional logics like high minimum guarantees/buy-rates on video-on-demand services, etc.

Figure 7. Potential benefits of digital distribution of TV Content for industry players
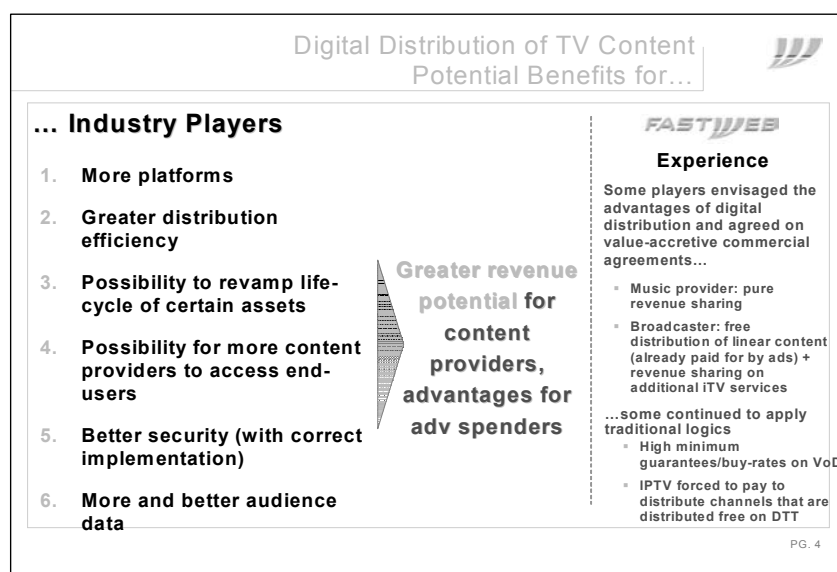
Source : Fastweb.

163.   There are still barriers to the full exploitation of digital content distribution and new commercial agreements. Barriers posed from traditional players to content access include:

- Time windows: we need to move from a system which unduly protects less efficient distribution channels to a level playing field that unlocks the value potential granted by more efficient distribution platforms. Content remuneration should be proportionate to each platform characteristics in terms of: Type: video-on-demand is more similar to DVD-rental (and potentially sale) than to traditional TV business → pure revenue sharing is better suited to align the interests of content providers and distributors. Remuneration should be proportionate to customer/user numbers.

- Fears on intellectual property protection: Commercial agreements that favour legal IPTV services are the best way to ensure protection from piracy.

164.   Actions to be taken to ensure that digital content distribution reaches its full potential? A new industry structure and new commercial agreements are necessary. Vertically-integrated operators need to move from a single to a multi-platform approach and have no multi-platform exclusivities. The focus should be on the development of a core platform plus taking advantage of new opportunities offered by new platforms reaching greater efficiency, additional services, etc.). Content providers have to stop discriminating in favour of traditional platforms (*e.g.* time windows), there has to be an end to geographical/multi-platform exclusivities, a move to proportionate content remuneration and to adapt to characteristics of different platforms to unlock most value from all of them.

165.   New relations between content providers and digital distribution platforms would benefit all industry players and unlock value. The need for policy/regulation is limited if all industry players understand the value potential of new platforms and act accordingly. However, there is a need for intervention in case inefficiencies of traditional platforms are unduly protected against general interest.

Alex Ogilvie, Vice President, Business Development Europe, Warner Bros International TV

166. Alex Ogilvie presented Warner Bros International television and the way it is licensing content. Warner Bros is the single largest US broadcaster providing content to multiple platforms. The company is divided into three main divisions: Theatrical (which distributes the cinema), Home Video (including Electronic sell-through) and Television (which includes licensing and rental VOD/SVOD). Time Warner sister companies include Turner Broadcast (channels), HBO (pay channels and platforms), AOL (Internet) and New Line (film production).

167. WBITD licenses content in Europe based on a number of parameters:

- **Geographic:** Individual contracts by market, due to differing rights and availability dates.

- **Window (time from local video release):** Start with Transactional PPV/VOD and then move to subscription Pay TV, Free TV, Basic Cable, etc.

- **Device:** TV, PC, Mobile/Wireless, Portable Media Player, etc.

- **Usage:** Linear TV, streaming VOD/SVOD, temporary download VOD/SVOD, etc.

168. Each individual licence agreement will identify the rights granted in relation to each of those parameters and the company aims to license only those rights that the operator requires as it does not want people to warehouse rights.

169. Warner Bros has seen the following developments as a result of the increase in commercial opportunities: rights have to be defined in a clear way which includes a precise definition of new delivery mechanisms and devices. New industry sectors and new business models have emerged with differing end goals and an uncertain consumer demand. At the moment the development is characterised by a high volume and low values as multiple operators are chasing multiple usage and devices. Furthermore, there is a need for inventory management in order to maximise return on investment on individual properties and to counter value destruction through over-exposure in earlier windows.

170. Existing/new commercial opportunities relate to windows (VOD, pay TV, free TV, basic cable) and devices (conventional TV, PC, mobile/wireless, portable devices) by also offering services across various windows or across various devices: potential for stand-alone catalogue Subscription Video On Demand services across multiple devices, Catch-up TV and linear re-transmission of live channels (possibility to collect and watch episodes that viewers would otherwise have missed), additional non-exclusive VOD/PPV opportunities, across multiple devices.

171. WBITD has seen the following developments as a result of the increase in commercial opportunities: *i)* Increasing need for clear definition of rights (Clarity on rights/holdbacks in existing agreements and precise definition of new delivery mechanisms and devices, *ii)* new industry sectors and business models necessitate an education process (on both sides), including anti-piracy initiatives. There exist differing end goals (subscriber growth versus content revenues) and usually consumer demand for new delivery platforms is uncertain.

172. New trends challenging the *status quo* include:

- **New sectors entering distribution:** Telephone companies, ISP's, Web Portals, Mobile Operators, etc.

- **Distributors are increasingly packaging content:** Pay TV and Free TV operators are creating branded VOD and mobile TV services, IPTV operators are creating branded subscription VOD services and mobile operators are creating branded TV/VOD services.

- **Distributors are creating and commissioning enhanced content:** Additional content and interactive opportunities around mobile services arise.

- **Content owners are extending and creating distribution brands:** Brand and content owners are packaging product for mobile and IPTV services. There is a brand extension from existing linear TV channels to new usage and devices.

173.   Overall, it is crucial for Warner Bros that it licenses to people who care about the content and are protecting it.

Chris Castle, Senior Vice President, Legal Affairs and General Counsel, SNOCAP

174.   Chris Castle presented the business model of SNOCAP and the legitimate peer-to-peer (P2P) system. SNOCAP's company history begins with the end of Napster. Napster was unable to launch its commercial subscription service. P2P systems that try to offer legitimate content face a lot of difficulties. When Napster closed due to legal difficulties, six of the employees decided to create a legitimate P2P distribution system, called SNOCAP.

175.   SNOCAP offers the first end-to-end solution for digital licensing and copyright management services through an innovative music registry and clearinghouse. It enables record labels and individual artists to make their catalogues available through authorised peer-to-peer networks and online retailers. In addition to new releases and current hits, SNOCAP's database may include live recordings, remixes, B-sides and out-of-print tracks registered by major labels, independent and unsigned artists. SNOCAP has also a self-registration process which allows any person who wants to register their content to sign up. Content providers can easily manage all aspects of digital distribution through SNOCAP's database, which enables them to establish business rules and maintain control of their content across multiple online retail locations. SNOCAP is thus a middle man between the copyright owner and the retailer. Currently, large brands want to have music services based on a P2P technology. That would never have happened before the Supreme Court decision in the Grokster case.

176.   To understand the development of the digital music market, it is useful to retrace the development of the CD that had a market share of approximately 5% in the early 1980s and about 90% of the commercial music market now. Digital music currently has a market share of 6% but what has changed is the overall market size that is essentially declining. As a consequence it will be extremely difficult if not impossible to expand the digital market share to compare to the dominance of the compact disc without the harnessing of P2P technology.

Justin Kniest, Managing Director, Fabchannel

177.   Fabchannel is the video portal of Amsterdam-based Paradiso. It was set up in order to raise attention for the 95% of professional music artists who do not attract major record label or media attention. Fabchannel started to record live concerts in Internet quality and acquired rights to Webcast them. Two casting concepts are available:

- Live Webcasting (people from around the world can watch concerts live and chat with each other) and

- Video on demand (not only whenever you want, but also whatever you want).

178. At the moment the project is subsidised by the Dutch government. In 5 years, 500 concerts were recorded and today 478 are available on-line. There is a function called "world map" showing the users on-line and their location. The project is building a community and providing an interface between artists and users. Fabchannel went through interesting experiences of engaging with an online community and the feedback culture. Even if Fabchannel can be used for free and with a good stream quality, viewers are not completely satisfied and they provide constant feedback to Fabchannel. It has tried to learn from this feedback and adapt its offering.

179. In order to turn Fabchannel into a business model, several aspects have to be considered:

- Billing process (how to arrange billing in order to generate profit).

- Advertisement (how to involve ads depending on user group).

180. To create a community, the brand and the feeling which Fabchannel creates around its service are its only assets. Every time something short-term is done, the risk exists to lose half of the community as it is a niche market. The future of Fabchannel is seen in the expansion towards offering video clips for iPods (iTunes) and TV via Internet.

Discussion

181. *Question from BPL Music:* The digital music industry shows that commercial agreements between artists, producers, etc. can work. Copyright and DRM solutions enable this business to develop and to succeed. Former P2P sites did not have copyright clearance.

182. *Answer by Chris Castle (SNOCAP):* SNOCAP has entered into P2P licenses with all major and many independent labels. There have also been a number of other commercial arrangements between the major labels with music services using P2P technology. Labels are seriously considering using P2P technology and are much less resistant than they were five years ago. The labels are adopting both a carrot and stick approach to P2P instead of only trying to force users out of P2P. Once this market starts to stabilise, sophistication in terms of marketing of P2P networks will increase. It is a different distribution channel, it is a different community, the marketing push is different, the expertise needed is different, but it can be acquired.

183. *Answer by Alex Ogilvie (Warner Bros. International TV)*: The tipping point when P2P became prevalent for the music industry was when 50% of the population had Internet access. In the film industry, when 50% of people will have broadband, illegal film downloading will become an unstoppable issue. The film industry tries to do everything it can to get ahead of that curve, because it has learnt from the music industry. Certainly, P2P is an area that the movie distribution business is looking at, as well.

184. *Answer by Justin Kniest (Fabchannel)*: Record companies should stop thinking of DRM and start thinking of how to reach the audience. Attracting attention is a real problem. Internet and P2P have made it more obvious. Radio stations are diminishing in terms of audience and now everyone is turning to the Internet for music. Instead of waiting, it would be nice to be proactive as a record company and to search for partners that can help to find niche markets. It is about new artists who will never be as big as Madonna anymore, because she became big, when everyone watched "Top of the Pops".

185. *Answer by Chris Castle*: Yes. More people are listening to music than ever before, but the problem is how to reach them.

186.   *Question from floor*: In order to replace the record industry revenue falls so far, 6-7 billion music units would have to be shipped as of now. In the physical world this number is astronomic (1 billion units are currently shipped by industry). In the digital world, however, this figure is insignificant, right?

187.   *Answer by Chris Castle*: This may be true. But today the CD is still the pre-dominant format.

188.   *Answer by Justin Kniest*: In defence of the record industry: Every industry that goes digital, is facing the same problems. It takes time to re-organise an entire branch. The TV industry will have even more problems to reinvent itself.

189.   *Comment from IFPI*: The music industry is succeeding more and more in reaching consumers. This can be seen from the increasing digital music sales.

190.   Question by Jean-Jaques Sahel (UK Department of Trade and Industry / Chair OECD Working Party on the Information Economy): What are the relevant policy issues in this debate?

191.   *Answer by Justin Kniest*: The aspect that intellectual property rights are limited according to national territories generates significant barriers to content distribution. Fabchannel experienced difficulties, while creating Web sites in various languages (on different URLs) to cater for various European markets.

192.   *Answer by Chris Castle*: The answer cannot be regulation. It would be desirable to see governments do nothing for a while. The market place can find the solutions.

193.   *Answer by Justin Kniest:* The American market is privileged due to its size. In Europe several relatively small markets exist and some government support may be needed for certain types of content.

194.   *Question*: The question is surrounding the topic of regulation versus non-regulation and the issue of Network neutrality: Should Government intervene to enable any form of content?

195.   *Answer by Andrew Burke:* Complete de-regulation should be the norm, as pushing particular platforms will backfire.

196.   *Answer by Stefano Parisse (Fastweb)*: The existing rules should of course also apply to the emerging digital content industry. However, there is no role for an *ad-hoc* new legislation.

197.   *Statement by Italian producer*: Who will produce content in five years? Without support or regulation in favour of independent content producers, languages, etc. global players will be the only producers of digital content that reaches the end-user.

198.   *Question by Jean-Jacques Sahel:* Give a worst case / best case scenario of 2010 in one sentence.

199.   *Answer by Chris Castle:* Record companies as they exist today may collapse upon themselves if they do not continue to embrace technology.

200.   *Answer by Alex Ogilvie:* No progress taking place in the industry represents the worst case. The best situation that could happen is if we could take the best things of traditional and new media and combine them for the consumer.

201.   *Answer by Justin Kniest:* The entertainment sector will be profitable to various players. What I am concerned about is news distribution and how to educate young people to choose the right media for news.

202.   *Answer by Stefano Parisse*: The technology of digital distribution will put everyone in the position to pick what content they want, when they want. Distribution bottlenecks for small players are eliminated.

203.   *Answer by Andrew Burke*: Quality will be pooled; hence polarisation will happen with a quality mass market at the high end and a niche market at the low end. The consumer won't be dominated by large companies. Consumers will dictate digital content.

Session 5B: Enhanced access to research and public sector information: A new growth driver?

204.   There is large potential demand for public sector information and content ranging from weather and location information through to literature and cultural content (museums, literature, archives, etc.). And with the explosion of research and professional information, there is a major demand for improved ways of accessing, organising and managing it to enhance the spread of knowledge and drive knowledge-based growth. In these areas easier access to information and knowledge is viewed as an important growth driver, raising access and pricing issues and questions of new kinds of "open access", particularly when they involve public funding of the development of digital information and content. In these areas there are elements of the "public good" and major commercial opportunities, both of which are affected by increasingly easy distribution and access. This session focused on recent experience in trying to meet new demands and use and exploring potential cross-fertilisation between different areas.

205.   Key questions addressed were:

- What are the major challenges to making public sector information and content more accessible and meeting potential demand? Where is demand greatest and how is this being met? How are pricing issues being tackled?

- What are the interactions between commercial and public sectors and how do they vary across different areas of public sector information and content?

- Research and professional information have been innovative leaders in adopting new distribution models and hybrid access models to distribute content and information – what are the trends and what lessons can be learned?

- What are the most important features of the research and professional information distribution models in areas of distribution efficiency, access and intellectual property, and to what extent can they be applied to emerging areas of public sector information and content?

Chair: Juan Carlos De Martin, Professor, University Politecnico di Torino

Herbert Burkert, Professor, University of St. Gallen / Fraunhofer Institute for Media Communications

206.   Herbert Burkert presented a set of policy principles to help to improve public sector information laws.

207.   Information consciousness needs an information conscious environment where the value of information is recognised in the political, economic and social culture of a society. The public sector is the most important actor in this environment, as it holds the largest amount of information resources. One tool to establish this environment is legislation which reflects the appreciation of information.

208.   Three types of legislation are now addressing the value of information in the public sector:

- **General freedom of information laws** (key reference: Swedish law, Federal US FOI Act)

- **Specific access to information laws** targeting special media and special information subject areas (environmental information laws: Aarhus Convention and EU directive).

- **Legislation relating to the place of the public sector** between public sector service responsibilities and information market requirements (EU Directive on the reuse of PSI).

209.   Currently, this necessary legislation is insufficient. Freedom of Information (FOI) laws have set precedents for obtaining public sector information and putting it into useful context for citizens. Still most of these laws do not ensure attentive and proactive action of public administrations with regard to information needs coming both from the civil society and the information content market. Special sector information laws are often more stringent because they are able to harness the social forces taking an interest in the specific information area. But they present many problems. Furthermore, in the field of "remarketing" legislation, the recent EU Directive leaves out such public sector information resources with high value potential including all cultural, research and educational information. Beyond that this legislation is but a- although useful - restatement of the applicability of competition law on public sector market activities.

210.   Thus, legislation exists, but it is insufficient. The OECD seems to be the appropriate forum in order to re-evaluate the current piecemeal approach (a result of different historical, cultural and political traditions of access and transparency in our societies) and to start with a more comprehensive set of principles from which adequate actions can derive.

211.   Together with Peter N. Weiss, Herbert Burkert has put a set of eight principles into public debate which could help to guide the renovation of public sector information law. But it is only in their comprehensiveness that they have the potential to overcome the current situation.

212.   Those principles are:

- Access principle: Public sector information holdings should be subject to the access principle. Any natural or legal person, across national boundaries and without any further qualifications, has the right to obtain, upon request, information in the possession or under the control of public sector institutions, provided that no legitimate exemptions apply. Legitimate exemptions should be clearly stated in advance. The application of these should be subject to review by an independent authority.

- Inventor principle: Public Sector Institutions should make an inventory of their information holdings and keep that inventory up-to-date at regular intervals and actively make such an inventory generally and easily accessible.

- Quality principle: Public sector information holdings should be provided in the same quality as that in which they have been kept in the public sector.

- Costs principles: The costs chargeable to *any* requester should not exceed marginal costs of distribution; with the possibility to waive such costs in cases where requesters can show a specific public interest.

- Choice principle: Requested information should be provided in the format requested if the information is available in that format or could easily be transformed into that format. The

requester may be charged with the transformation costs, provided the administrative costs of recovering them do not exceed the cost of transformation.

- Intellectual property rights and Control of origin principles: Public sector information holdings should be exempted or as the case may be they should not be covered by intellectual property rights, particularly copyright and database protection regimes. The public sector should be entitled to ensure through minimal regulation that responsibilities for any changes to the information after its transfer are made appropriately transparent.

- Legitimate improvement principle: Public sector institutions are entitled to extend and to improve the quality and the format of their information holdings and information activities provided they do so with a public mandate and after a transparent procedure and in order to improve the quality or the extent of their services.

- Continuity of obligations principle: Public sector information activities if transferred to the private sector and still kept privileged are subject - to the extent of their privilege - to the same principles as public sector information holdings.

213.   With a framework set by those eight principles citizens enjoy accessibility and transparency of public sector information holdings. The private sector can obtain a broad basis of PSI, to innovate and add value to these holdings, without reducing the accessibility for citizens. Finally, the public sector maintains authority over the integrity of its holdings and is able to expand and improve the quality of public sector information.

Questions & Comments:

214.   *Questions by James Love*: Question 1: In the United States under Reagan and Bush, there was a policy of trying to discourage governments from directly emitting information to the public under the theory that there was unfair competition. This policy was overturned in the early nineties. When the changes were made, the private sector had to move on to more interesting ways to justify its services. It should still be possible for governments to provide their data in interesting ways. Question 2: There are some cases where it is appropriate for the government to put a copy-left obligation. One very recent example is the Head Map Project, where the National Institute of Health and the US put a contractual restriction not to file patents on the data. The idea that there was a problem of misappropriation of the public good brings a patents issue into a scientific database issue.

215.   *Answer by Burkert:* Mr. Burkert confirms the comments pointing to his principle on Intellectual Property Rights and Control of Origin Principles and the one on Legitimate Improvement Principle.

216.   *Question by Jeremy Beale (Confederation of British Industry):* Should the public sector really be entitled to release information with added-value while competing with the private sector? Is this not diminishing the possibilities of the private sector? How do you prevent the public sector from becoming a value-added publisher?

217.   *Answer by Burkert*: I am reluctant to give the private sector a guarantee that the value-adding process it undertakes on the basis of public sector information is guaranteed infinitely. Private business is always challenged on the one side by competition and on the other side by policy. If there is a parliamentary mandate for the public sector to add value to information resources, this is a legitimate basis.

218.   *Question by Jeremy Beale (Confederation of British Industry):* But the public sector would have an extremely dominant position, that it could abuse.

219.   *Answer by Burkert*: But the public sector is not charging for its services.

220.   *From the floor:* The public sector is not generating profit from this activity; therefore, it is not a competitor. Should it happen that a public entity is charging prices which are beyond costs, Article 82 of the EEC Treaty or the corresponding national legislation would kick in.

221.   *Comment by Javier Hernandez-Ros (European Commission, Head of Unit in Information Market, behind the European Digital Libraries Initiative):* In Europe the PSI directive was the first piece of legislation that brought a first step towards facilitating the re-use of public sector information. More was not possible at the time. Governments now have a clear framework in which they have to work transparently. The next steps have to come up with convincing results which embrace the principles Mr. Burkert outlined and create jobs and economic growth. If facilitated, re-use brings economic advantages. But much more work will have to be done to move to more fully open re-use of PSI.

Luis Rodriguez Moreno, Executive Director, Cervantes Virtual Project

222.   Under the title 'The Digital Library: Challenges and opportunities in facing the Information society', Luis Rodriguez Moreno presented the digital library "Miguel de Cervantes" which was started in 1999 and could be a model for the European digital library. The use of the library grew by 56% in 2005, with more than 188 million pages downloaded, more than 18 000 digitised documents, and more than 41 000 users subscribed to its bulletins. It is the most visited literary Web page in Spanish, all over the world. Importantly, the library is a private initiative with public service intent.

223.   Commitments of the project:

- Empower the worldwide knowledge of Hispanic cultures.

- Educate based on culture, information and leisure.

- Preserve the cultural heritage.

- Integrate the Latin American community, favouring a common cultural and educative space.

- R & D focused in improving our services and to make contents more accessible.

224.   Digital libraries are a place to compile, preserve, organise and spread knowledge taking advantage of the new technologies to offer value-added products and to make them more accessible. Internet is an affordable technology and a powerful platform of communication and information diffusion. Some risks have to be taken into consideration: like "*infochaos*", or the aspirations of some monopolistic organisations to limit access to knowledge. Digital libraries are currently "open temples of knowledge" and the most convenient spaces to transmit knowledge to the society, favouring the *multiplier effect*.

225.   *Towards the Universal Digital Library:* At the national level, support from the public institutions for local initiatives is needed to empower their development and growth, to facilitate diffusion and promotion through researchers, education and cultural community, to improve R & D as well as to improve the institutional co-operation of different local initiatives of digitisation archives. At the supranational level, focusing and supporting the integration and co-ordination of the different national projects is necessary.

226.   Main characteristics of the Universal Digital Library should be:

- High quality contents and user-oriented services under democratic criteria and a high degree of responsibility with the society.

- Respect for intellectual property regulations in each country.

- No barriers that limit access to the Library for reasons of technology, language and economy.

Questions & Comments:

227.   *Comment by Javier Hernandez-Ros (European Commission):* The European Commission aims to maximise the efforts of all digital library initiatives by connecting those initiatives and obtaining centralised access. It does not aim at integrating the libraries. But it is facing many problems in this process: ensuring that content is not digitised repeatedly, settling legal issues. The existing libraries contain public domain content. The European Commission would like to see European digital libraries also contain copy-righted content, otherwise there is a 20th-century black hole. How can this be brought online with the agreement of the right-holders? The Commission currently discusses issues related to technology and how to finance this move. In addition, it is dealing with the issue of digital preservation.

228.   *Question by Graham Vickery (OECD):* At the moment, you are only digitising books, what about other sorts of objects, art works, images, audio, etc?

229.   *Answer by Moreno*: We have books, documents, but we have also video. We take advantage of multimedia technology. To be honest it is very expensive to digitise as it costs more to digitise multimedia than to digitise written documents. Another interesting development is that the library offers transcripts of ancient documents which are difficult to read.

Charles Oppenheim, Professor and Director, Loughborough University

230.   Charles Oppenheim gave a presentation on access to research results and related Intellectual Property Right (IPR) issues. Scholars look to the publishing system for three main factors: speedy dissemination, economical access and quality (peer review by other experts). The traditional scholarly journal is failing to deliver this combination as well as it used to, according to many scholars. Therefore, alternative models (especially Open Access, OA) become attractive.

231.   *IPR issues associated with OA*. Journal publishers sometimes insist that copyright is assigned to them before they will publish the article and authors often sign away their rights without thought. Some publishers follow the Ingelfinger rule (the scholar assigned to a journal publisher may under no circumstances offer his/her article additionally under open access). Solutions for this problem are to refuse to sign copyright assignment and merely give a licence instead and retain rights, to avoid publishers who will not allow open access, or to use an OA journal instead (see www.sherpa.ac.uk for publishers who offer OA-friendly licences). However, these solutions require some degree of self-confidence by the academic that usually correlates with academic reputation.

232.   The *Creative Commons licences* are generating significant enthusiasm at the moment. These licences have been developed for artists wanting to disseminate their material free of charge while maintaining some degree of control. However, they are not necessarily a panacea, as in some jurisdictions they do not constitute a valid contract, they sometimes don't ensure long-term archiving and materials cannot be confined to genuine academic readers (*e.g.* gynaecological images) using such licences. Hence, these kinds of licences may be too open.

233.   Other implications of IPR raise the question: Should the employer insist that staff retain IPR? And: Should the funding agency insist that the outputs of research be made available by OA? Either approach has an impact on academic freedom and contracts of employment.

234.   Charles Oppenheim concluded that OA will soon be a significant part of the scholarly publishing scene, but "must have" journals will not wither away. IPR issues, which hitherto have been avoided, need to be addressed by policymakers. Finally, Creative Commons licences may not be the only answer, but some similar form of licence, such as Science Commons, will be.

David C. Prosser, Director, Scholarly Publishing and Academic Resources Coalition Europe

235.   David C. Prosser presented the concept of open access (OA), benefits of OA as well as OA mandates.

236.   Currently the economic agenda is to create a knowledge environment, to encourage technological transfer, to empower citizens and to support the development agenda. The OA concept promotes all of these more successfully than the current access to data models. With the increase of R&D spending (*e.g.* as the Lisbon Programme suggests) the access to research results has to be maximised in order to maximise economic gains.

237.   *Concept of Open Access in relation to scholarly research and publishing.* Scholarship is built on exchange of knowledge and collaboration (as well as competition!). Scholarship thrives in an open environment, where no financial barriers are placed between readers and information. Open access is the free, unrestricted access on the public Internet to the literature that scholars give to the world without expectation of payment. It is fully compliant and does not conflict with copyright. Open access businesses look to earn income on revenue streams other than subscriptions.

238.   *Benefits of Open Access for Data and Research Literature.* Allowing data to be used, reused, repurposed, shared, mined, etc. makes it more valuable (common examples are the Human Genome Project, clinical trials, etc.). Increasing evidence shows that open access papers have wider dissemination and are downloaded and cited more often. Therefore, they accelerate research, enrich education, share learning among rich and poor nations and enhance return on taxpayer investment in research.

239.   *Open Access Mandates* can ensure that research is published under OA. The benefits of open access are leading many funding bodies (both government and private) to mandate open access. For instance, the US National Institutes of Health requires 'investigators submitting an NIH application [above a certain funding amount] are expected to include a plan for data sharing or state why data sharing is not possible.' It 'requests and strongly encourages all investigators to make their NIH-funded peer-reviewed, author's final manuscript available to other researchers'. Wellcome Trust requires grantees to deposit an electronic version of their peer reviewed research articles in a repository no later than six months after the date of publication. An increasing number of other individual research organisations and institutions are putting in place mandates, including CERN, Queensland University of Technology, Universidade do Minho and the University of Southampton.

240.   Hence, a shift in business models in scientific publishing from ownership of content to providing value-added services as a source of profit should be the way forward. In the policy field, efficient and effective use of public sector information has to be ensured. Maintaining the right degree of competition in the publishing market is important.

Sally Morris, Chief Executive, Association of Learned and Professional Society Publishers

241.   ALPSP (Association of Learned and Professional Society Publishers) is the international association for non-profit publishers and those who work with them.

242.   Developments in publishing: access to data. One has to distinguish between datasets (sets or collections of raw data captured in the course of research or other efforts) and databases (information products created for the specific display and retrieval of data). Indeed, publishers believe that raw data/datasets should be made publicly available, since facts are not copyrightable. Therefore ALPSP and STM (the International Association of Scientific, Technical and Medical Publishers) are drawing up guidelines:

- **Publishers** should **not claim ownership** in data associated with journal articles.

- Such data should be as **freely available** as possible for other scholars to build on.

- Publishers should be encouraged to **make data** included in articles (tables, figures) **retrievable and re-usable**.

243.   *Developments in publishing: access to authors' e-prints*. Currently many publishers allow authors to 'self-archive' a version of their journal articles (43% in a recent ALPSP survey, 75% according to SHERPA). However, so far relatively few authors do so (CIBER 16%, DFG 31%). As some research funding institutes mandate self-archiving, publishers are increasingly concerned that the creation of OA databases may provide an alternative to journal subscriptions. Some publishers are therefore introducing embargos (period after publication during which the author is not allowed to post a copy of his/her article somewhere else) to protect subscriptions. Furthermore, version identification is an important issue, as different versions are made available.

244.   *Developments in publishing: access to published articles.i*) There is a small but growing number of **Full Open Access journals** *(*2 007 titles in DOAJ at 21/1/06). Funding models vary, but the majority are subsidised. Some require author-side payment, but authors may not be able to pay the amount required to cover the costs of publication, at least in some disciplines. This puts into question the viability of the OA financial models, as not all research publication can be subsidised; *ii*) **Hybrid Open Access journals** have proven to be a good way for experimenting provided the correct price level is found. Major publishers are testing this. *iii*) Furthermore, a growing number of publishers (22% in the recent ALPSP survey) make back-files freely available after a period - **Delayed Open Access**.

245.   *Publishing: innovation and added value*. Providing access to peer-reviewed and edited versions of papers may not be enough in the future, although readers do still value the journal's function in selecting and collecting articles of particular interest to a specific community. Therefore, publishers have to find other ways of adding value to individual articles, as they already do by linking (*e.g.* using CrossRef technology), by providing moving images or downloadable data. But more added-value services can be offered such as: Reviews (*e.g.* Living Reviews), Selection and commentary (*e.g.* Faculty of 1000), Portals (*e.g.* Signaling Gateway), and Social book-marking (*e.g.* Connotea; see also blogs).

Discussion

246.   *Question from Reed Elsevier:* Regarding the eight principles: Burkert did not really define government information: the scientific articles we are talking about where the private sector has invested in the peer review is very different from public sector information. The government is taking something from

the scientific publishers after they have invested in it, then making it freely available in competition with the private sector.

247.   *Answer from Herbert Burkert (University of St. Gallen / Fraunhofer Institut for Media Communications)*: On the definition of public sector information he used the ownership concept that includes all information which has been produced with the tax payer's money. In the case of Reed Elsevier he could imagine that the question is how much additional money input is coming from publishers to make this still a publicly owned resource at a given time.

248.   *Comment: Representative from Reed Elsevier:* Peer reviews are managed by publishers. Especially for journals rejecting a high percentage of articles it is no more entirely funded by the government. This would not fall into the category of public sector information.

249.   *Question to David Prosser (Scholarly Publishing and Academic Resources Coalition Europe)*: D. Prosser mentioned that researchers want to share their knowledge but only 3 % are complying. Is the problem not more within the community than with the publishers?

250.   *Answer by David Prosser:* Some authors publish the paper and that is it. They think that they need no more communication. Furthermore, a lot of authors informally communicate and disseminate their work (probably against copyright) and thus have achieved their desired targeted dissemination. The main reason is time; researchers think it takes too long to deposit papers. It is a classical public good problem with individuals not investing the extra effort.

251.   *Question to Sally Morris (Association of Learned and Professional Society Publishers):* Concerning the low uptake from authors: a very important point is informal dissemination. In the print world, publishers gave authors a number of copies to distribute as they wished, in the electronic world, they are giving an electronic equivalent. Authors know to whom they want to disseminate their work (a fairly small circle). Making the content available in such a manner that libraries do not need to subscribe is a very different issue.

252.   Concerning peer reviews: in addition to managing the process of peer review the cost per published article is really high (10-15% of total revenue with Elsevier) – those articles which are reviewed but eventually rejected add to the cost. Publishers have created journals in the first place. In a journal you can find articles of a certain level and quality. Publishers also invest a lot of money in investigating the needs and in establishing the journal. A new journal usually loses money for the first five to seven years. The publishers are also building a system that makes it as easy as possible to search and retrieve the content. All these investments have to be recouped.

253.   *Question:* Are there any governmental steps in the United States to take back the scientific research results and avoid that they go through private publishers and that libraries have to pay for?

254.   *Answer by David Prosser:* Mandates are neither discussed because people want to hurt big commercial publishers nor because they want to take back control. Rather it is a good idea to enhance access and increase the return for tax payers' money.

255.   *Question from Reed Elsevier*: D. Prosser stated that scholarship thrives in an open environment without financial barriers and then he talked about the barriers between readers and information. Inverting the business model does not get you away from this; you still have a financial barrier between author and information.

256.   *Answer by David Prosser*: Concerning inverting business models: the business model currently used does not work any more. Access to journals is declining while there are huge increases in research

coming from India and China, etc. This research will be published and channelled into peer-reviewed subscription-based journals - increasing the costs of libraries further. But the system can be inverted, *i.e* people who are doing the research should pay for the dissemination of the research - dissemination becomes part of the research process. If we reach the level of 3% expenses of GDP on research (Lisbon target), this will generate a lot more papers and we will not be able to buy these papers when in subscription. As a consequence, the efficiency of this research will be diminished. Making distribution a part of the research process makes sense from a business model point of view. Research suggests that the total cost of publication and dissemination only amounts to 1-3%percent of the total costs of doing the research leading to the paper.

257.   *Comment by Reed Elsevier to D. Prosser:* The amount of money spent in the university system on journals is to 0.5 to 1% of the university budget. The big issue is whether going open access will have different effects on different types of institution. The Cornell University did a study which showed that they would run out of money if they had to pay for the articles they produced since they were a net producer of information.

258.   *Comment by Prosser:* But is it not fair that Cornell University should pay for publication out of its research budget that comes from institutions such as the NSF?

259.   *Comment by Charles Oppenheim (Loughborough University) to Reed Elsevier*: You assume that Cornell University itself would pay for its staff to publish in open access journals. The model that is emerging and the most popular one is that a funding agency is paying for that. Then Cornell could actually save money.

Day 1 Wrap-up

Jonathan Taplin, Professor, Annenberg School for Communication, University of Southern California

260.   Jonathan Taplin mentioned that he wanted to talk about *real* convergence. The development is still at a stage where stakeholders have one foot in the old broadcasting world and one in the new IP model world.

261.   *The industry trend - moving into an all IP-based universe*. Multi-media services will be transported seamlessly across all devices and media (wireline, wireless, cable) and all will be based on IP. The development is from device-centric to a subscriber-centric world - from location dependent to location independent with increased desire for personalisation. This will need increased flexibility and agility in deploying new services. Experimentation will be needed in which firms try out new technologies and business models.

262.   *Shift to targeted and advertisement supported on-demand content distribution*. There is a big shift in advertising. Mass marketing is over with personal video recorders and new Web services. Google, Yahoo!, broadband, digital music and interactive advertising are driving subscriber, visitor and revenue growth. Money is shifting from the old broadcasting model to new IP-based services. Jonathan Taplin believes that IP-based services will also need to be increasingly supported by advertising. He does not believe that the pay-per-track/pay-per-film model (USD 1.99 for a series of Desperate Housewives) is a very promising market. Interactive advertising will sustain entertainment in the new IP-based model as well. This form of advertisement will be increasingly permission-based and much more targeted.

263.   *Need for new content management systems*. Content providers need to be able to provide their content into open network to ensure that their content is compatible with all new devices according to customer needs and for remuneration. The model of NTT Docomo can be cited as an open platform to everybody which had a great success. In other countries currently the content deals (per platform, per

service provider, etc.) are very dispersed and too many deals need to be concluded to deliver too little content. If one has access to these new content management systems then one can add intelligence, targeting info, subscribing info, e-commerce links, advertising links, and draw advertising money to support content.

264. On policy: International organisations and policymakers should not apply broadcasting model rules to the new environment.

Rapporteur Comments 4B and 5B and Rapporteur afternoon stream B, Day 1: Len Waverman, Professor, London Business School

265. Waverman reiterated that the liberalisation of the telecoms sector began only eight years ago (January 1st 1998) and then broadband was not even part of our lexicon. The evolution since has been tremendous.

266. The Internet is a disruptive technology. It is an enabler and destroyer of business models. No matter how disruptive technology is someone has to pay for the costs incurred. The Internet is not "free" in terms of its resource costs. Someone must pay ultimately for servers, bandwidth, broadband, etc. In the old broadcasting model advertisers paid the full bill for the content and the distribution platform if the viewers bought the viewing device, in so-called two-sided markets. So if something is "free", it is either being cross-subsidised (usually poor economics) or another party with something to gain is footing the bill. There was a lot of discussion at the conference on technological neutrality. Waverman would like to highlight another important neutrality – "Business Model Neutrality" – *i.e.* governments ensure that policies do not bias business models – so that the best business model emerges.

267. Companies are attempting to implement appropriate business models, not always without difficulties as one has recently see with the adoption of DRM. But these attempts are trials to decipher the demand conditions for new goods and services. Here the OECD could do serious valuable research by placing far more attention on consumers and the demand side. So the two big questions are: What are user habits? What are winning business models? Too often the business models appear not to have been discussed properly and as a result public policy prescriptions are not business model neutral.

Session 4B New User Habits and Social Attitudes

- The presentations showed that the rapid deployment of high bandwidth does generate usage. But the links between infrastructure and usage are unclear and little is known about usage patterns and their linkages to different infrastructures. More research is needed on social phenomena like blogs and this is a role to be fulfilled by the OECD.

- Search for new business models. There is not one "killer" application for the Internet. The Internet supports millions of different uses and business models.

- There is increasing use of "new" online sources by the young to the detriment of older established platforms. Younger generations rely more on online news and far less on print. This begs the question of what is news and who reports it.

- The explosion of blogs is quite amazing. The emerging issue is how to monetise this new explosion. Total advertisement revenue for 24 million blogs is USD 50 to USD 100 million.

- The *Encyclopaedia Britannica* began in 1768 and today has 120 000 articles. Wikipedia began in 2001 and has 3 million articles. What does this mean?

- Are phenomena like blogs short-term expressions of personalisation, or long term new media phenomena? This issue should be further analysed. Are we changing to the "Participant Economy" where "amateurism" is a driving force?

- Bottlenecks to moving to such a participative economy: We should not forget that entry costs into this so-called "participant Economy" are large – computer, literacy, broadband, skills, education are needed – the digital divide is real. Most of the current business models and analysis is still PC-centric. The question is how to ensure the access of broader populations to the media.

Session 5B Enhanced Access to Research and Public Information – A New Growth Driver?

268.   The emergence of digital libraries is a growing phenomenon. Governments have access to huge reservoirs of information, culture, art, entertainment and research. This treasure trove is too little researched and catalogued. Here we need the OECD to, first, inventory the holdings/information across member countries. Second, and importantly, we need a careful political economy analysis of the appropriate business model for government. The session included near universal acceptance that government "information" should be distributed at the marginal costs of distribution (zero) and be IPR free. This may well be the correct answer for society. But perhaps governments charging for such digital information would be preferable: it would not crowd out privately-generated information and revenues generated might allow tax decreases or fund additions to collections. We need more analysis on this front.

269.   Open Access can exist alongside the traditional scientific press but mandating open access might be wrong. It is necessary to analyse the political economy and incentive effects of different models. It is not that Open Access is "free". Again someone has to pay for the creation of content, the platform and dissemination. In the Open Access model it is potentially the researchers – the producers of the new papers - who pay the costs. We am not convinced that forcing producers to pay provides better economic incentives or lower entry barriers (*e.g.* of researchers in poor countries who wish to publish). Nor do we know the impact of open access on the brand names we need to build academic reputation. We do need evidence of the costs and benefits of Open Access and alternative business models in scientific publishing and elsewhere before mandating changes.

Rapporteur afternoon stream A, Day 1: Eli M. Noam, Professor and Director, Columbia Institute for Tele-Information, Columbia University

270.   Digital Economy is moving from a push to a pull model where the audience participates. Entrepreneurialism is back from dot com boom to content applications boom. Moore's law continues and government processes can never be that fast. As a consequence, tensions are built into the system.

271.   In stream A of Day 1 many argued that governments should not be involved although some participants called for more protection of IPR. But here are some problems we did not hear about:

- Currently the various networks, devices, lack of standards and interoperability are posing problems. We need integrators and maybe specialised application providers who can provide simplicity.

- Institutional or economic problems that some countries have to implement certain converged IP environments (citing the Korean example which has trouble issuing an IPTV license). It is necessary to hear more about countries' frictions and problems to learn.

- Other public policy concerns: walled garden vs. open Internet, net neutrality issues, spectrum allocation, initiatives in broadband deregulation.

- How much does it cost to produce content services? Cost characteristics define industry structure. They also determine whether content production will be the business of many small firms, a mix of big and small, a few or very few big firms. Hard numbers on cost and industry structures are needed.

- More knowledge is needed about who the real gatekeepers are.

Dinner Speech: Terry Fisher, Professor and Director, Berkman Center for Internet and Society, Harvard University

272.   The aspect of digital technology that has most visibly and powerfully affected the entertainment industry is the ease with which digital recordings can be reproduced and redistributed. This has reduced the effectiveness of copyright law, destabilised traditional business models, and given rise to most of the law-reform and business initiatives that were discussed at this conference. The question is to determine how to ensure that creators and intermediaries are fairly compensated while simultaneously exploiting the economic and cultural benefits of the new technology.

273.   Prof. Fisher focused on two other dimensions of digital technology which are less well known and, as yet, have had less impact on the industry: the *resurgence of amateurism* and *opportunities for differential pricing*.

1) Resurgence of amateurism:

274.   For millennia, most non-graphic art was transmitted and apprehended through live performances. Technology very slowly changed that. Thereafter, as the quality of recordings improved and their availability increased, the numbers of people who listened to or watched those recordings steadily expanded and the number who watched live performances erratically declined. The cultural implications of this transition were profound. At the most basic level, people came to devote extraordinary amounts of time to the consumption of recordings. But the number of performers – both professional and amateur – have during the past century steadily declined and become concentrated in ever fewer hands.

275.   In the past few years, the trend toward concentration has reversed. Malleability of digital recordings and software enables users to modify, edit, and recombine. It led to the rise of amateur films with many viewers and contests, computer-generated short film, Webcasts, etc. Businesses are beginning to accommodate this outpouring of amateur creativity.

276.   Cultural benefits:

- The cultivation of semiotic democracy. People are more engaged, less alienated, when they have a voice in the construction of their cultural environment.

- A change in the character of creativity (projects are less individualistic or hierarchical, more collaborative and playful, than the style one finds in centralised, professional media firms).

- Radical increase in the diversity of the entertainment content.

277.   Threats to other important values:

- Manipulation of recordings made by others, may threaten artistic integrity and copyrights.

- Quality may be lower.

278.   Should we applaud – and use the legal system to reinforce this trend – or should we resist it? If one concludes that the advantages exceed the disadvantages, one would want to adjust the legal system to accommodate this trend – specifically, by: expanding rights to engage in transformative, rather than consumptive, fair uses; curtailing moral rights for materials distributed on-line; and limiting the ability of ISPs to choose which content flows through their pipes or to charge more for uploading than downloading. If one concludes that the disadvantages exceed the advantages, one would do the reverse.

2) Differential pricing:

279.   The second of the two effects of digital technology is the capacity to facilitate differential pricing. Indeed, at first glance, it seems that digital technology will corrode rather than foster the capacity of content creators to charge different consumers different prices for access to their products. The unauthorised distribution throughout the world of high-quality digital copies of movies is undermining the windowing system, forcing studios to shorten or, in a few recent instances, to eliminate altogether the gap between theatrical release and DVD release. But this corrosive effect will be short lived as factors grow that will facilitate price discrimination. They include: the speed with which prices of goods distributed on-line can be changed; the large amounts of information that online sellers can gather – and then share – about customer behaviour, and the capacity of technological protection systems to prevent or limit resale of recordings, thus preventing arbitrage.

280.   Again, the valence of this price discrimination is not clear with economists thinking that the net impact on social welfare of price discrimination is ambiguous and with academics wondering about the fairness of this practice. Clearly more research is needed on the economics and consumer attitudes to differential pricing. Policy makers will have to decide if they are going to abet price discrimination or frustrate it.

281.   Privacy issues loom large in the area of price discrimination. Access to personal information (data concerning individual consumers' etc.) facilitates price discrimination. Sellers have a strong incentive to gather and then exchange such data. Should government impede their efforts to do so? What if fully informed consumers are willing to part with that data – say, for a price break? Scholars disagree sharply on whether arrangements of this sort are acceptable. Policy makers will be forced to confront this issue soon.

DAY 2

Nobuo Tanaka, Director for Science, Technology and Industry, OECD

282.   Nobuo Tanaka welcomed the audience while pointing out that - according to the news - Rome had become the world capital of the digital economy for two days.

283.   Tanaka repeated the insights gained from the first day.

284.   *Macro-view:* The rise of broadband access and content applications, and creative uses surrounding them is having impacts on growth and employment - three regional perspectives from Japan, Korea, United States and Europe were at the centre.

285.   *Micro-views from the supply and demand sides*: *On the supply–side* creativity, value chains and business models are changing with new platforms, new creation and access to content, commercial agreements for content. The transition taking place is one from supply push to demand pull. *On the demand-side:* The rise of new user habits and social attitudes, enabled by new platforms and new content services is noteworthy (online games, blogs, etc.). Overall digital distribution also helps to provide enhanced access to knowledge, research and public sector information as a growth driver.

286.   Nobuo Tanaka then outlined that the aim of the second day is to build on the themes laid out in previous sessions and push them forward and identify business and policy strategies that encourage creation, development and use of digital content. This will also help the OECD to define the next steps of its work. The OECD Council Recommendation on Broadband Developments steered the focus from infrastructure policies to broadband content and applications. In 1998 ICCP organised a Ministerial on realising the potential of Global E-Commerce in Ottawa. Ten years later, the ICCP Committee is planning to hold a second Ministerial meeting in 2008 on the future of the Internet and digital content will play a role.

Session 6: New ways to access knowledge and content: Content digitisation by commercial players and public institutions

287.   New intermediaries and established institutions are entering the middle ground of commercial innovation and new ways of supplying content. New participants and distribution mechanisms are increasingly looking to digitise and add value to existing content and information, and established institutions are looking to make more of their content and information more accessible. This session identified new ways of digitising content, the extent to which dividing lines between commercial and public content are blurring, the kinds of digital content that are coming to the market and into wider use, and the issues raised in terms of access by potential new content distributors and how established institutions that have not been sources of digital content are tackling the issue of increasing the accessibility of their content.

288.   Key questions addressed were:

- What new distribution mechanisms exist and which ones are proving most successful for new entrants (intermediaries), and for established institutions (archives, museums)?

- What are the major challenges in improving access to content and knowledge (*e.g.* adding value, distributing content, providing access) while respecting intellectual property?

- What are the roles and obligations of public institutions (broadcasters, libraries, archives) in making their material accessible for free public and/or commercial access, and what is the role of commercial digitisation and under what conditions?

- Are there new forms of government-private collaboration to make access to knowledge and content possible?

289.   The panel showed that commercial and non-commercial initiatives currently co-exist.

Chair: Julie E. Cohen, Professor, Georgetown University Law Center

290.   Julie E. Cohen mentioned that the title of the session is very broad but probably not broad enough to encompass all of the developments that are taking place or could take place to allow access to content and knowledge. The players involved are diverse. Some of the players involved in this emergent space are new; some are commercial while others are not; traditional governmental institutions are involved; and there are also new players that are neither traditionally private nor traditionally public (quasi-public organisations). She also mentioned that we should not only speak of 'new ways to access traditional content' but also about the rise of new content types. Existing and new players are experimenting with new technologies to provide access to both traditional and new content, and also with legal and contractual regimes for governing access that vary from traditional copyright to the public domain to experiments in between those two extremes (*e.g.* the creative commons approach).

Eric Saltzman, film producer Board of Directors, Creative Commons

291.   Eric Saltzman presented the Creative Commons (CC) Project. The Creative Commons Project is at the intersection between culture and politics and realises that these need to go together. The project is very much targeted at the discussion about 'the rise of amateurs' and a participatory culture. The CC project provides a platform with a formal legal arrangement to amateurism and is a good test to see what it can produce. In this experiment many content creators can put on their content for others to see and build on them. The goal is to provide a situation of reasonable copyright (some rights reserved) which stands between absolute control (all rights reserved) and complete anarchy. The idea is to move from a permissions culture to a participatory culture: while moving through stages of exploring licensed culture, improving searchability and finally promoting re-use.

292.   CC is offering free legal and technical toolkits around CC Licences and the goal is promote creative collaboration. These allow creators and their licensors to publish content under CC licences and others to reuse it or for the general public to search for CC licensed content that they can use, copy and build on. Every Creative Commons licence allows others to copy and distribute a work provided that the licensee credits the author/licensor. In addition, Creator/Licensor may apply different conditions (Non commercial, No Derivatives, Share Alike – the latter allowing you to alter, transform or build upon the work while sharing the resulting work under the same licensing). Licensed content can be explored, search is improved and re-use is promoted. Every Creative Commons licence allows the world to copy and distribute a work provided that the licensee credits the author/licensor. In addition, creator/licensor may apply the following conditions: asking for attribution, asking for the use to be only non-commercial, that no derivatives are being crated and share alike. When filing for a CC licence a simple licence generator will pose five simple questions to choose a license.

293.   Under www.archive.org all CC works are hosted for free. Commercial players Yahoo! and Google increasingly offer the explicit search for CC content. Institutions like MIT are using CC to make educational material available. Sites like ccMixter builds projects around the re-use of CC-licensed content (53 million on line objects are offered under a CC licence by 17 million users, two-thirds of CC licence adopters choose the "Non-Commercial" license option, two-thirds of CC licence adopters choose to permit derivative works).

294.   CC also faces some challenges:

- **Moral rights**: Different jurisdictions have different moral rights requirements. The question is how to provide clarity around the moral right of integrity, particularly where derivative works are permitted.

- **Exclusivity**: Many standard industry licensing arrangements are still based on exclusivity. For instance, many existing business practices in the music industry are premised on the assumption that any "free" online copies mean a loss of income.

- **Collecting societies**: The existing collective rights management model requires an assignment of covered rights in all current *and future works* to the collecting society; challenge is to adjust royalty collection to account for use of CC licensed works.

Paul Gerhardt, Project Director, Creative Archive, British Broadcasting Corporation

295.   Paul Gerhardt outlined the BBC's Creative Archive Project which has as its goal to build a digital content archive of a public broadcaster and beyond in Britain.

296.   The BBC archive is recognised as a cultural treasure with more than 1 million hours of content and this content is growing each week (BBC as content factory). The BBC is currently required to provide some limited access to archives for licence fee payers. The BBC Charter always contained language on public accessibility of its content, through a physical appearance at the BBC. However, in the context of the new Charter, which is currently being renegotiated for another 10 Years, the BBC proposes much broader public access (www.bbc.co.uk/thefuture/). The idea is to provide free access to selected content for leisure, education, and other similar non-commercial uses (including preview, modification, sharing - all on a non-commercial basis). This broader public access relates to the three pillars of the values of the BBC as laid down in the Charter: education, entertainment and information.

297.   Two important developments triggered the desire to provide enlarged digital public access:

- New media provide the **capacity to network, share and create**. These new media sustain the rise of amateurism and provide for rising possibilities of educational uses of content. Paul Gerhardt mentioned that amateurism is now considered a pejorative term but that this has not always been the case (citing the 19th century as full of amateurs, and the example of Darwin). He mentioned the need to dust off the term of amateurism.

- **New movements in the area of intellectual property arrangements**, in particular Creative Commons, which provides for new means of distributing and creating content. The BBC is interested in retaining legal ownership of archives while sharing them with the public who paid for content in the first place. The BBC has thus developed its own creative archive licence.

298.   Why would the BBC want to share content? Paul Gerhardt mentioned that the BBC wanted to be a major force for media literacy and creativity in the UK. This is done in a context in which the traditional broadcast model (linear one-to-many distribution) is being reconsidered and in which human expression is increasingly encapsulated in audiovisual content.

299.   The first step in this process was to draft the creative archive licence, the second and current is to put together a pilot phase for licences. The trial, in which the BBC released selected content to target audiences, is now half way through (http://creativearchive.bbc.co.uk/).

300.   But the BBC also realised that establishing a BBC creative archive as a self-standing project does not make much sense. From a user perspective, it would be ideal to search all moving images or at least moving images from many sources all at once. So the BBC decided to encourage other content owners to make their content available on the same terms through founding the Creative Archive License Group. The project has a commercial value (wider publicity/profile, possibility to upgrade to commercial path and other licensing/investment opportunities) and a Public Value (*e.g.* home use/learning/creative applications). It builds on an interoperable licence with other providers and is geared to facilitate the exchange of content with other national territories. Identifying an international distributor for BBC content to international audiences will be a priority objective.

301.   But the Creative Archive is not pitched in competition with private market. Commercial players will be welcome. The BBC sees the creative archive as a source of new entrepreneurial ideas as the content can also be used for commercial purposes; *e.g.* driving growth and revenues, perhaps through the sale of broadcast-quality copies. The BBC also sees to it that right-holders are compensated for the non-commercial use of their works.

302.   The BBC also wants to encourage new content creators to distribute under CA or CC licenses or to professionalise their distribution with a commercial licence agreement. User-generated content will be

amajor feature of the future broadcasting landscape. It will be a significant challenge to traditional broadcasters and traditional productions systems.

Mihály Jambrik, Hungarian State Secretary, Ministry of Informatics and Communications

303.   Mihály Jambrik presented the views of the Hungarian government regarding the field of public sector information (PSI).

304.   Dilemma for policy makers. Since the early 1990s Hungary has an Act which regulates access to public sector information. Recently, the Hungarian Parliament created a more specific regulation, namely an Act on Electronic Freedom of Information. When these acts were being drafted Hungary had a serious dilemma with the following questions:

- To what extent should we oblige public institutions to provide information about their activities?

- Do we have to be radical and create requirements which are forward-looking, even revolutionary and create one of the most demanding regulations in the world? Or be more pragmatic and realistic and oblige the information owners to provide only limited amounts of information for the time being?

305.   As Hungary wanted to apply a successful approach it chose the second option. In Jambrik's experience the biggest bottleneck for providing public sector information is the lack of organisational capacity and skills of the government institutions holding the information.

306.   *Distribution mechanism.* Focusing on the operational part, in Hungary all public institutions are obliged to provide information to the public on their activities and they have to publish this information on the Internet. Hungary also has a central registry for public sector information available on the Internet which can be used to track all the information published.

307.   *Remaining challenges.* Since Mihály Jambrik was only speaking about information that originates from the state administration there were no challenges regarding intellectual property rights. If this system is expanded to other types of information intellectual property issues will have to be tackled. Since 1 January 2006 there are also experiments with making digital audiovisual content more available from public broadcaster. Because of intellectual property rights issues this can be viewed only in selected institutions such as libraries and can only be viewed for selected activities like research and education but not entertainment. But Mihály Jambrik pointed out that he had learnt a lot from the BBC presentation.

308.   As the distribution system is relatively simple the biggest challenge is to involve all the public institutions (this means 20 000 organisations in Hungary) and encourage them to develop the organisational skills needed for information sharing. Another challenge is to ensure the consistency among the information that public organisations provide, to guarantee the searchability of the information, and to provide new financing models to public institutions whose income derives from "selling" public sector information. For certain data is also difficult to make a clear distinction between privacy and publicity. Finally, a country like Hungary has to publish the information in several languages (including minority languages).

309.   *Potential of public-private partnerships*: Public institutions play the central role. However, commercial organisations can also be involved. They can use information provided by public institutions freely for information-brokerage purposes.

Bradley Horowitz, Director of Technology Development, Yahoo!

310. Bradley Horowitz presented Yahoo!, its vision and projects. Yahoo! is not only a doorway to content through the search function. Yahoo! always has been about user-generated content, founding communities and providing platforms. The founders of Yahoo! brought editorial expertise and the human touch to existing content to organise Internet.

311. The CEO of Yahoo! is a former Hollywood studio manager. So Yahoo! has special sensitivity to the needs of the content industry and understands it better than competitors (especially when it is about partnership). Their strategy is to create win-win partnerships with others - especially in the area of content. Yahoo! is thus very interested in open standards like RSS.

312. Yahoo! Search is less than 2 years old. The vision of Yahoo! Search is to find, use, and expand human knowledge while determining what is fair use and what is fair to copyright holders. Yahoo! is also interested in providing a platform for users to add their knowledge and share their ideas. Furthermore, there are special projects where communities answer the questions of their peers, for example the co-operation with Flickr. No rights are attached; the users are acting as librarians with editorial comments and are also distributing other content. Through creating open standards many tools have been created around the original Flickr site.

Jens Redmer, Director of Google Book Search, Europe

313. Jens Redmer outlined the Google Book Search project while pointing out that there are still misunderstandings concerning this project and stressing the importance of copyrights.

314. Google's mission is to organise the entire world's information and make it universally accessible and useful. Currently, the majority of the world's knowledge is not available on line and not available through search engines (mostly in archives, writings of scholars, etc). In terms of online content there are now billions of items indexed which can increasingly be made accessible by search engines such as Google. In terms of offline content (such as books) billions of items are still not indexed.

315. Two projects are now underway in Google to tap this knowledge: the Publisher Programme which is run jointly with leading publishers on a contract basis and the Library Project which is conducted with the world's leading libraries: divided into the Public Domain titles and titles that are still in copyright (see Table 1 for a comparison of the three projects). The two projects have as their goal to make users discover more books as the inclusion of books significantly improves the quality of search results. They are not about providing substitutes for a book.

316. Book results are then integrated into Google Web search results which are based on relevance to search.

Table 1. Google Book Search

Programme	Publisher Programme (on contract base with publishers)	Library Programme	
		Public Domain titles (out of copyright)	Titles still in copyright
What is indexed and scanned?	Full book	Full book	Full book
What is viewable and browsable?	A limited set of pages is shown (imitates a book shop), browsing limited to 2 pages each. Max 20% of a book is viewable per month to unique user. Some pages are always invisible. Print, save, download and copy functions are disabled.	No pages are blocked, the browsing is unlimited up to 100%,. View of the whole book. Print, save, download and copy functions are disabled.	Only the existence of the book is shown (bibliographical info and snippets). Print, save, download and copy functions are disabled.
Retail links	Publisher gets first retail link. Google gets no compensation for retail link. To online retailers like Amazon. To local retailers via Google local (map which shows you local book store which may have book).	Usually to libraries and to Open WorldCat. But also Retail links if available- no compensation to Google.	Retail links - no compensation to Google To libraries
Advertisement	If publisher agrees. Context-relevant advertisement underneath the book pages. Publishers receives majority of advertising revenue.	None.	None.
Goal	Sell more books. Enable the discovery of books. Bring books back to life.	Create access to cultural goods	Help to discover the existence of books.

317. The different project streams vary with respect to the degree of viewable content (20%, up to 100% and only bibliographical data and snippets), what is browsable (up to two pages, up to all pages to none), modalities of advertising (if publisher agrees or none) and the overall objective. In the Publisher programme the goal is to sell more books, in the Library programme it is to make works available which are in the public domain and in the Library in copyright project the goal is to raise awareness concerning these books. In all cases one cannot download, copy or print. But for all three streams Google needs to digitise and index whole books.

318. *Benefits to publishers and authors. For books in print:* The Publisher Programme enables discovery, drives purchase and at any time full control is retained. *For out of print books*: The Library Programme is an opportunity to bring these books back to life, earn advertising revenue through retail links, the possibility of upgrading books to the Publisher Program and get additional promotion, the ability to enable research and citation. All projects are free of charge to all parties: authors, publishers and users.

319. *Benefits to Google*. Google Book Search is a strategic investment into the overall product (thus not a primarily commercial interest at this stage): It fulfils the company mission while improving access to culture, improves user experience while improving search quality, increases user loyalty with more loyal users.

320. Users should be kept in the focus. Yahoo! and Google experiment with a great deal of new products and new media initiatives. The greatest threat to content owners is not piracy or illegal distribution, it is obscurity of their content. Content that does not get found is lost to consumers and society.

Questions and Answers

321. *Comment by Julie Cohen (Georgetown University Law Center)*: Julie Cohen wondered whether creativity is best achieved through the normal copyright system or - as pointed out by the first two speakers - by some intermediate forms. She pointed out that those amateurs in the 19th Century were in fact

a minority forming the cultural elite and not a broad mass movement. She wondered whether the current copyright system does not provide more content.

322.   When listening to speakers, Julie Cohen perceives two somewhat different visions of the full flowering of the Internet's potential. Some panellists are focused on development of the amateur space: Creative Commons and Yahoo!. Others (BBC, Google print) are interested in how to create intersections between amateur content and non-amateur content.

323.   *Questions from Julie Cohen (Georgetown University Law Center) to Yahoo!*: Why are you not doing what Google is doing? Google: Why are you not doing what Yahoo! is doing?

324.   *Answer by Bradley Horowitz (Yahoo!)*: Yahoo! also cares about non-digitised content making all artefacts searchable. But Yahoo!'s approach has been the partner approach (*i.e.* the Open Content Alliance with Microsoft joining it), consortium focused, providing for opt-in possibilities and dealing with the sensitivities of content owners.

325.   *Answer by Jens Redmer (Google)*: The majority of the world's knowledge is off line. A typical library collection has the following composition: 25% of books in the collection are still in print, 65% of collections are out of print but still in copyright, 15% of collections are out of copyright. We want to make sure that all these three categories are digitised.

326.   *Question from Julie Cohen:* How does legal protection for technical protection measures influence your projects?

327.   *Answer by Paul Gerhardt (British Broadcasting Corporation)*: The BBC recognises that DRM elements are useful to get information on usage and audience. In the BBC project you need to register and invisible watermarking is applied. However, the BBC is not interested in using DRM which would inhibit creative uses of the content.

328.   *Answer by Jens Redmer*: Access control features are more relevant to their project than DRM. Google has created a lot of access limitations (log-ins, etc.). Users will try to circumvent the limitations but Google knows how to deal with this.

329.   *Answer by Bradley Horowitz*: Yes there are also abuses of their system. But we are moving from aculture of scarcity to a culture of generosity where less information will be proprietary (move to shareware market place). Sites like Flickr are voluntary. Most users will stay legitimate. Users understand that work needs to be credited and owners are less in favour of locking up content and willing to allow reuses / creativity. More and more amateurism is taking place. But at the same time the rights of publishers need to be respected. The professional market is different from the amateur market, and they need different treatment.

330.   *Question from Julie Cohen:* How does the imperfect deployment of broadband play a role?

331.   *Answer by Mihály Jambrik (Hungarian Ministry of Informatics and Communications):* This is not a concern. Broadband penetration will grow and reach satisfactory levels.

332.   *Answer by Bradley Horowitz:* But better access the Internet - especially in the mobile context – is required.

333.   *Questions from Sacha Wunsch-Vincent (OECD):* As a user you would like reliable and objective search results. Today we have heard about five different and independent projects. In certain projects there is no quality control, censorship, others have commercial incentives and most of them are not integrated

into one common platform with one large catalogue. How to make sure that from the user and government perspective one gets good results and avoids the aforementioned trends towards the formation of 'content enclaves'?

334.   *Answer by Bradley Horowitz*: People have forgotten that rankings are not objective and that different agendas are being pursued with respect to search results (spammers). The objectivity of search results is an illusion. Even today page rankings only depend on Webmasters who decide who is linking to whom. Search tools coupled with human editorial touches can help to overcome that shortcoming.

335.   *Question from Javier Hernandez-Ros (European Commission):* Did the described projects trigger re-use of content on a commercial basis with economic impact and have these impacts been measured?

336.   *Answer by Paul Gerhardt*: But the BBC is very interested in seeing what commercial impacts may result and will be monitoring it very closely. A teacher, for instance, could re-use the material to create a commercial educational product. But so far, commercial re-use has not yet been evaluated.

337.   *Question from David Fares (Newscorp):* Copyright owners benefit from several exclusive rights. Making available is one right but the other exclusive right is the right to reproduce. This aspect not mentioned by Google is that it has to make a complete copy of books they do not own to provide their services. How do you reconcile this approach with the law?

338.   *Answer by Jens Redmer*: Yes. Several publishers have filed lawsuits because we scanned books at libraries which are still in copyright. But Google needs to make a copy to index content, like it does with the rest of the Web. According to Google, this process of copying to index is consistent with international copyright.

Session 7: Are digital media and the Internet changing creative supply?

339.   New and different ways of creating, distributing and accessing content can affect creativity by: opening up new commercial and non-commercial content creation and distribution channels and expanding markets and uses in ways that favour creativity. The Internet potentially provides many opportunities for creativity and interaction between creators, users and consumers, by lowering barriers to entry and driving down creation and distribution costs, expanding the scope of distribution, increasing specialisation and reaching niche markets, and lowering access costs for users. Major questions revolved around whether the potential for lower-cost creation and distribution is leading to greater creativity and easier distribution, the extent to which brand image and name have increased in importance due to network effects and whether there have been changes in the roles of intermediaries in content creation and distribution. This session focused on the creative tensions between content creators and artists and the potential for new low-cost content creation, distribution and access to digital content.

340.   Key questions addressed were:

- From the point of view of content creators and artists are there increasing opportunities to reach commercial markets and non-commercial users?

- Is this increasing creativity in established and new content areas?

- How are competitive conditions changing the structure on the content supply side? What is the emerging balance between greater access and returns to content creation?

- How does this vary across different content areas (audio, video, entertainment, literature)?

341.   Then focus on the Interrelationship between digital media and the Internet and creative supply. Is the Internet changing both the ways artists create content and distribute it and what does this mean for established distribution mechanisms? Are there new incentives to produce? Has the Internet and digital media expanded the supply of new content? Is it leading to new forms of content or simply new ways of access?

Chair: Paul Hoffert, Professor / composer, musician / Chair Guild of Canadian Film Composers

342.   Paul Hoffert pointed out that the question was not **IF** but **HOW** digital media and the Internet are changing creative supply.

343.   Changes comprehend lower entry barriers, lower distribution costs, lower costs to users (as production and distribution costs are lower), much greater diversity of creation (shelf space in the digital media almost limitless: many more titles available now), as well as the rise (or better: the return) of amateurs. Content is about moving from monetising things to monetising experiences.

344.   Also, relationships are changing from one-to-many to one-to-one relationships (symmetrical networks). There is great potential for symmetrical exchange of content and related commercial opportunities. But the current infrastructure is not conducive to one-to-one relationships. In the current broadband setting, there is a difference between upstream and downstream capability, *i.e.* users not having the same bandwidth as suppliers. This should be remedied to fully exploit.

Kan'ichiro Aritomi, Vice President for Policy Coordination, Japanese Ministry of Internal Affairs and Communications

345.   Kan'ichiro Aritomi spoke about the Japanese perspective on content policy which needs to look at production, distribution and consumption. As demonstrated in Figure 8 these fields have different dynamics and policy priorities: distribution (*e.g.* convergence of distribution system / telecommunications and broadcasting, expansion of players into the content market, parameter of copyright handling), production (*e.g.* new creators as well as established ones, rise of blogs, protection of copyright), consumption (*e.g.* diverse range of contents, usability improvements, handling harmful content). All can result in a virtuous cycle.

Figure 8. Japan's perspective on content policy
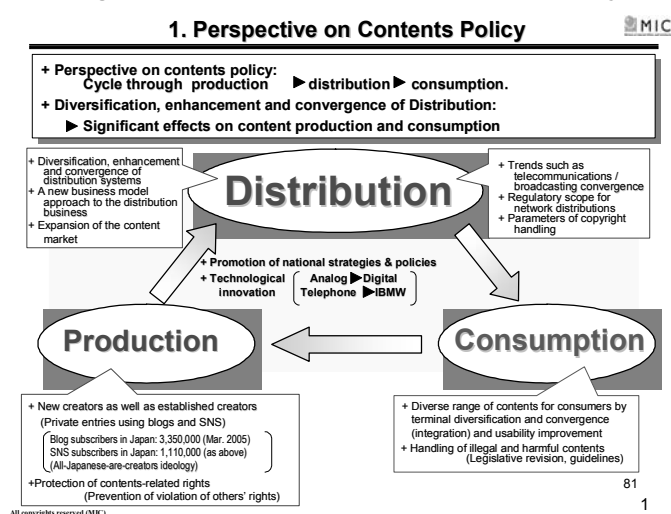
Source : Japanese Ministry of Internal Affairs and Communications

346.   Kan'ichiro Aritomi pointed out the rapid shift from analogue to digital, to broadband and to next generation networks with ever increasing speeds in Japan. Essentially technology is developing from telephone to IBMW (Internet Broadband Mobile Wireless), including digitalisation of satellite, terrestrial and other broadcasting and to optical fibre. Several types of convergence are shaping this market: content convergence (content for telecom and broadcasting with VOD and IPTV), business convergence (convergence of telecom and broadcasters with cross-ownership and triple play services), network convergence (unified networks to transmit signals of both telecom and broadcasting with broadcasting via communication satellite and via FTTH), terminal convergence (with terminals being usedfor various purposes).

347.   New trends are the strong growth of the media and the software market, new services (ring tunes boom, one-segment broadcasts for mobile terminals), the emergence of triple play providers, efforts to provide new video distribution services, new forms of participation in the content value chain (content aggregation and distribution by telecom providers, entry of pod casting on mobile devices, platform providers like Google searching for new business models such as high-volume customer aggregation, etc.) as well as capital alliances between providers (investment by Fuji TV in Index – a mobile content company). New businesses are also emerging in this value chain that relate to search, payment, etc.

348.   On the solution front, any "bottlenecks" hindering the realisation of a "beneficial cycle" should be resolved. Ensuring "international consistency and co-operation" will be essential.

Adam Klein, Executive Vice President, Strategy & Business Development, EMI Music

349.   Today the music business has a once-in-a-lifetime opportunity to completely reinvent an industry in an environment of radical change on multiple fronts (technology and rules). Mistakes will be made along the way but that is the nature of change. Adam Klein outlined three of the music industry's values:

- **Bringing unique value to music artists** in support of developing their talent, growing them as a "brand" and enabling them to earn well from their talent in the best and, therefore, most innovative ways possible.

- **Providing music products**, experiences, information and unique value to consumers around their relationship to the artists.

- **Responsibility** to shareholders for profitable performance.

350.   The three values have to be achieved in an environment of greater physical retail concentration which drives prices down, greater product disaggregation which reduces the size of an average sale from full CDs to single tracks and rampant piracy.

351.   *Some facts about iPod owners*: Overall iPod owners listen to more music than before and they buy more music than before. More than 75% buy digitally (and not CDs) because they can buy the individual track they want, whereas the primary reason for buying a physical CD is that they want all tracks, or simply love the artist. Only a small number of fans said that physical "security" was an important motivating factor to buy a physical CD. If the music industry creates products or services consumers want (*i.e.* allowing them to experience through experimenting and charge a price that they feel represents fair value) the majority will be convinced. Whereas the first wave of the Internet was really about changes in distribution, the second current wave is about consumers creating their music experience: playlists, blogs, tapes communities, mashing, podcasts.

352.   *Focus for artists*. The Internet allows direct interaction with consumers and fans. For young artists the early direct exposure to fans through relationship building by the Internet (MySpace / Arctic Monkeys), some 'give away' early tracks, etc. has very positive implications. But, for most artists to grow to their full potentia, they need professional producers, tour planning and support, marketing and promotion development to reach consumers (web sites), help to negotiate with firms (Nokia, Vodafone, Verizon, Yahoo!, AOL) who are developing their service and not necessarily an artist's career. So there is a clear role for music companies.

353.   The new drivers of growth include, among many others, Internet and mobile applications, monetising P2Ps, services and products like ring tunes, ring backs, etc. There is great potential in making back catalogue available (long tail effect) and video downloads are also starting. In this process DRM is there to facilitate and make sure those who really mean to do harm keep out. The music industry should be consumer obsessed (consumer research), artist obsessed and make innovative strides around creating the new music experience. From the technology side Mr. Klein expects interoperability, complete ease of use as well as good price/value relationship. The Government should facilitate broadband, fixed line, mobile diffusion and protect intellectual property.

Max Pezzali, Musician

354.   Max Pezzali spoke as a singer, musician, composer. In the beginning, not all musicians had an enthusiastic view of distribution via Internet. Some musicians refused to commercialise their music because they considered it art and not business. Others associated digital distribution with piracy. But musicians are starting to understand that they have to deal with consumers' needs. Consumers do not want to have music for free but they want music which is more integrated into their lifestyle (*i.e.* more flexible ways of listening to music).

355.   From a musician's point of view digital music must be considered as one of the greatest opportunities ever.

- **Digital purchasing** means that artists no longer have to think in the form of albums. They can go back and start thinking about individual songs at a different rhythm (not an album every 18 months, *e.g.* one three-song CD every six months or a song a month) and potentially with a better quality than if they had to produce 12 songs to fill up an album. It is a new way of making music.

- **Digital technologies** are also creating a revolution for music production. Today music can be produced at a professional level in the bedroom. Every musician can make sounds, try things out, can experiment without physically entering a studio. This leads to lower entry barriers due to lower recording costs and lower prices. It also leads to new experiments when producing music.

- **Digital revolution** is changing the way of relating to fans: blogs and podcasts are cheap ways to keep in touch. Webcams are a great way to give exclusive content to fans.

Rachel Clark, Director, Broadcasting and Content, UK Department of Trade and Industry

356.   Rachel Clark provided the government perspectives on the interactions between creative supply and new media.

357.   Business models that once seemed fixed forever are being described as in need of urgent reappraisal at best, and as antediluvian at worst. Huge opportunities for exploitation of creative content are matched with threats to existing value. New ways to make exciting, interactive content available are being evolved against a background of rampant online piracy.

358.   Governments should not be in the business of picking winners because they are not good at that. However, there are three areas where government is in a position to help.

359.   *Regulation*: Only governments can set regulation, and it is their fundamental duty to ensure that the balance is right – especially when it comes to regulatory regimes supporting Intellectual Property. On the one hand, robust IPR regimes lead to a creative economy but on the other hand IPR law should not disregard the legitimate expectations of consumers. Account has to be taken of how content can be made available for the wider public good, so that ideas may be exchanged, and education facilitated and culture invigorated. Regulation must also be "future proof" and technology and platform neutral. Having the right legislation framework ready is also important in the light of increasing competition from rising forces like China and India.

360.   *Procurement*: Government has massive influence through its own huge appetite for digital content. If the public sector becomes an intelligent customer of digital content, it will benefit in terms of better use of always-scarce resources, and material that is focused and relevant. And the final winner is the public, who not only gets value for money but, just as importantly, can find better quality, tailored, easily accessible information and content. The United Kingdom has begun to take this extremely seriously, and has devised four golden rules: Be Citizen centred, Focus on delivery, Be Business centred, Put results above process, Ensure excellent use of the medium. The key is to develop, identify and spread best practice, and disseminate practical guidance as widely as possible.

361.   *Facilitation*: Quite apart from setting (and enforcing) the regulatory framework, and acting as an intelligent client, governments have a relatively unsung role as a facilitator of dialogue and understanding between different interests. The United Kingdom has provided such a forum called the Creative Industries Forum on Intellectual Property which has proved valuable.

Philippe Kern, Secretary General, Independent Music Companies Association

362.   Kern stressed that 95% of creative companies are small and medium-sized enterprises (many micro-enterprises even) whether they are music or film companies – mostly driven by passion considering the risk in the business. They develop the large majority of new artists. They normally work the long term with no pressure from shareholders to deliver albums and results every quarter. Artists are to be nurtured and developed over three to four albums.

363.   These industries have the following specificities: In Europe notably, they evolve in a very fragmented market (language, culture). They are essentially local companies catering for local customers. They evolve in a market that is heavily concentrated (seven majors in film – four majors in music) and they are historically followers of the majors' business model. They are undercapitalised and no financial institution in Europe wants to invest in Europe in a company with intangible assets (unless there is some form of state intervention to guarantee the risk). However, collectively, in the music sector independent companies (Indies) are a significant force with a 20% market share.

364.   Furthermore, they sometimes have a poor understanding of the technology, due to lack of resources. But in general they are technology and consumer friendly (none of them implement anti-copy systems), they are not in a defensive mood and they see that digital music is attractive to consumers and that demand for music has never been so high. Their advantage is that they have low overheads and can move quickly and more effectively and thus have fewer problems in breaking free from old business models.

365.   *Challenges:* The number one priority is accessing the new market place – independents are offered discriminatory terms or sometimes no terms at all. They are victims of a pick and choose policy in

the digital environment because there is no structure that caters for the management of their rights. They need to build better bridges with the ICT industry and leverage copyright assets with financiers in particular. Furthermore they have to engage with customers, and monetise P2P transactions. Their ambition must be to avoid music being commoditised and devalued in bundling schemes, making music a loss leader to sell other products.

366.   *Strategy of the independent record companies:* Independents have started to get organised. IMPALA was set up in 1999 with the aim to consider the independents response to the challenges ahead. The first action of IMPALA was to challenge the concentration in the music business. IMPALA set up a licensing platform – a content management system - to make it easier to access independent repertoire for licensing purposes. Furthermore, IMPALA engages with the operators as the latter (Fastweb, Deutsche Telekom) should not only engage with the majors when it come to new platforms. Indies can help "creating a cool customer experience".

367.   *Role of regulators:* Public interest objectives including culture diversity, pluralism, consumer protection and the protection of minors are at stake. The market is not always good when it comes to supporting these objectives. Public intervention will remain necessary especially in a culturally fragmented market. Regulators have a role in sustaining diverse artistic creation, distribution and education. They have to enforce anti trust rules to enable market access as market concentration puts consumers' choices and diversity at risk. Homogenisation is bad for society and bad for business. Furthermore copyrights have to be guaranteed and means to invest in creativity and diversity have to be made more available. Creation should be considered and supported like innovation or R&D.

Session 8A: Content creation: Building the right environment for innovation

368.   This session focused on the features of the environment that encourage content creation and innovation, and the roles of business and government in creating this environment.

369.   Key questions addressed were:

- Can creative communities and environments be fostered, and if so how? What is the balance between fostering the creative environment in general and for particular content industries (music, film, games, new content), and can enduring local creativity be fostered in highly globalised industries? What are the challenges for public policy?

- What are the requirements for R&D, innovation and technology, education and skills in different content areas and who supplies them?

- Are there specific venture capital, business start-up and expansion issues to be addressed?

- What value chain and business model issues need attention (non-discriminatory policy frameworks, competition issues, technology neutrality and consistent platform-neutral treatment of content)? What are the policy implications of platform convergence for content creation?

Chair: Richard Simpson, Director General, Electronic Commerce, Industry Canada

370.   In 1998, the OECD and member countries held a conference in Ottawa to address issues surrounding the appropriate role for government and the private sector in promoting the growth of e-commerce. There was consensus from all stakeholders on the roles of industry and government: Industry was going to drive investment and innovation in the market place. The job of governments was to create

the right environment for this to happen. Simpson pointed out that this conference in Rome is about providing the same answers regarding the future digital economy and digital content.

371.   Richard Simpson mentioned the conference Policy Background Paper which raised similar questions (see Box 1 for the policy cluster developed in this background paper):

- How can we foster the creative communities and environments? What is the balance between macro-level approaches versus micro-level solutions?

- Four issues which will be central: *i*) Knowledge environment: What are requirements for R&D, education and skills? *ii*) Investment climate: in addition to good fiscal environment, how can you ensure venture capital environment? *iii*) Market place conditions: Very important area where government plays a role concerning market access and competition, *iv*) Network platform: mainly technological neutrality and platform convergence.

Six main areas of policy challenges have been identified (see Box 1):

Box 1. Digital content policy cluster

a) Innovation and technology (*e.g.* enhancing R&D and innovation in content, networks, software and new technologies).

b) Value chain and business model issues (*e.g.* developing a competitive, non-discriminatory framework environment).

c) Enhancing the infrastructure (*e.g.* technology for digital content delivery, standards and interoperability).

d) Business and regulatory environments that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights and digital rights management without disadvantaging innovative e-business models.

e) Governments as producers and users of content (*e.g.* commercial re-use of public sector information); and

f) Conceptualisation, classification and measurement issues.

Source: *C.f.* OECD report on 'Digital Broadband Content Strategies and Policies', DSTI/ICCP/IE(2005)3/FINAL.

Rachel Dixon, CEO Handshake Media / Australian Strategic Digital Content Industry Leaders Group

372.   Rachel Dixon presented insights into the Australian Strategic Digital Content Industry Leaders Group. The group was formed to explore how to keep the local digital content industry afloat.

373.   An important insight that is often missed in policy approaches is the fact that all content is comprised of two elements: The message (story, picture) and the medium (format, technology, network). But most government activities and policies (including funding) focus on one or the other but do not have integrated programmes for the two sides of the coin. The silo approach of government (no co-ordination between units, ministries, etc.) complicates the development of sound policy approaches.

374.   Suggestions and problems when trying to improve the digital content environment:

- Any initiative needs to involve the whole value chain and should include business people themselves rather than industry associations.

- Most frameworks for government stimulus relate to 20th century industrial models or industries with a slower rate of change. R&D assistance programmes, export assistance programmes, taxation treatment and other frameworks are geared for goods but not content.

- There is a skills shortage. High demand for designers and encoders has to be sourced from elsewhere. Education cannot hope to keep pace with developments in the digital content industries unless it embraces new models. Curricula at Australian universities take a long time to adapt and it is hard to get good people to teach because of the difficulties of obtaining tenure.

- Most R&D collaborations of universities are with major corporations and multinationals. But the involvement of innovative, small and medium-sized enterprises is essential.

- New models for protecting government intellectual property can provide a valuable stimulus to the digital content industries at no cost to government: Governments are too protective of their own intellectual property; they protect IPR by owning and not distributing content. Governments are poor at commercialising their IPR, and often may not share it even among agencies. It would be better for government to take non-exclusive licences to IPR. Companies should be able to resell and rework government content.

- Environments that are less protective from special interests are needed. In Australia, the media ownership situation is stifling growth and innovation. Incumbent telecom players are also creating problems by exercising dominance (similar to EU).

375.   Solutions to these problems and suggestions include stimulating market interest in investment, confronting the challenge of international competition and rectifying structural problems in government programmes created by the historically based analogue/digital distinction. Furthermore, it is crucial to improve R&D programmes and remedy skill gaps.

Mark Esseboom, Director, Dutch Ministry of Economic Affairs, DG for Energy and Telecom

376.   Mark Esseboom pointed out that many previous speakers have suggested that governments stay out of regulating. It is more complicated than that. It is more about the right balance.

377.   Currently, the main trends are convergence, the importance of IP protocols (telecom, media, all is converging to IP) and societal changes (more end-to-end communication, producer and consumer at the same time). The Dutch government is engaged with ministries to ask what should be regulated and what not. Task forces on special problems where all ministries and stakeholders are represented are very imminent. The leading principal is that the market should do it if it can. Currently there are more dilemmas than solutions.

378.   Examples of important government roles:

- New approaches are needed for the non-broadcasting environment: An example is the discussion around the European Directive on Television. How to make sure that in this new environment enough European works are produced?

- Competition policy: It is not uncritical that in this field governments should have a large role to play.

- Ensuring equal access, affordable access and an eminent government role in areas like privacy.

379.   The Netherlands is trying to improve the financial conditions for the creative business (funding), providing money to seed funding (joint initiatives between the Ministry of culture and regions). It focuses on synergy and co-operation between companies, knowledge institutes and governments. Furthermore, it engages in the improvement of conditions for intellectual property rights. Besides fostering entrepreneurship and cultural management the Netherlands try to intensify internationalisation by trying to promote exports and international exposure of the creative force. Finally, the government also co-financed the introduction of the creative commons project in the Netherlands and is supporting Fabchannel.

Andrea Camanzi, Chairman, Business and Industry Advisory Committee to the OECD (BIAC), ICCP Committee

380.   Andrea Camanzi presented main trends, challenges and the role of the OECD in the digital economy (as perceived by BIAC). The technology of broadband has now enabled the online content industry to take off. All sectors involved are benefiting today from broadband. The BIAC Broadband Manifesto of 2003 triggered the OECD Broadband Policy Statement and OECD work on projects such as the online music study.

381.   *Main Trends:* The liberalisation of the telecom industry produced a wave of investment that led to the diffusion of broadband in all OECD countries. Innovation has generated new platforms such as: wireless broadband, UMTS, Digital Terrestrial Television and IPTV; and Next Generation Networks, new products, services and hardware devices. From the point of view of the convergence of audiovisual services and of platforms, digital technology also transformed and fragmented the traditional TV offering, with more opportunities and risks. Consumer choice is massively increased due to the transition to digital TV, both satellite-based and DTT. There is an increased investment in production of content for the new channels and almost an end to the "spectrum" scarcity, which reduced the entry barriers for content producers who need to reach the consumer market.

382.   *Challenges:* To allow the market to sustain its unfettered development, new policy frameworks. With globalisation and convergence one cannot address the situation in a piecemeal and national fashion. Europe, United States, Japan and Korea are reviewing their regulatory framework for telecommunications and content distribution (including dealing with the issue of net neutrality), regulating new services differently to old ones vis-à-vis common carrier obligations. Asia has a special focus on content to be delivered on next generation mobile phones and networked information appliances. Furthermore, Europe is reviewing its TV regulation and its possible extension to online audiovisual services.

383.   To ensure the development of digital online services the following are necessary:

- More effective partnerships among stakeholders.

- Copyright protection against piracy must be guaranteed in an efficient and fair manner.

- DRM solutions should be left to the marketplace.

- Further understanding of business models for the purpose of promoting the availability of content across platforms to create new revenue streams for all stakeholders is needed.

- The question of how to encourage competition in all sectors involved must be solved

- Freedom of choice and the empowerment of consumers.

384.   OECD and member governments will need to address the following questions:

- Should content be enjoyed by anyone, at any time, on any platform?

- Should citizens be entitled to choices in the highest quality of service for the delivery of different types of content, and if so what impact would this have on the marketplace?

- Can these issues be addressed at national level or do we need some kind of appropriate global approach?

385.   BIAC proposes to address these issues in 2006 with the OECD.

Marianne Rønnebæk, Director and Deputy Permanent Secretary, Danish Ministry of Science, Technology and Innovation

386.   Marianne Rønnebæk presented the general Danish policy framework for content.

387.   *Facilitating broadband roll-out:* Successful content industries need good infrastructure with sound geographical coverage and acceptable prices. The role of the Danish government was to focus on increased competition and to facilitate broadband rollout which it did quite well. However, new technologies call for improvements in broadband infrastructure.

388.   *Promoting safety and confidence.* ICT skills and confidence are important topics and increased trust in the Net will stimulate demand. The government co-operates with partners to develop ICT safety culture. Spam and other challenges have to be addressed.

389.   *Building sustainable DRM solutions.* DRM solutions are important for the content environment. Governments must assist industry to develop systems which stop piracy but facilitate distribution. A balance must be struck between IPR protection, user friendliness, and consumer interests. Interoperable systems which minimise lock-in effects are to be strived for.

390.   *Ensuring competences.* Government must make sure that industry has access to the right knowledge base and ensure competencies which cut across traditional academic disciplines.

391.   The public sector acts as a driver in at least two ways. First, in facilitating common solutions (*e.g.* developing generic tools: digital signatures which can provide access to more than 150 services). Second, it acts as a driver in the creation of demand. Governments should make more resources available on line and promote effective digital communication with citizens and businesses (*e.g.* developing a portal - "one digital entrance to the public Denmark"). The Danish Government is considering adopting a vision stating that in 2012 all communication between the government and citizens and companies can take place digitally. OECD and the European Union have important roles in international dialogue.

Yossi Vardi, Chairman International Technologies, Member WEF ICT & Media Industry Community

392.   Yossi Vardi gave an overview of failures of the old entertainment industry and presented characteristics of the new one. Ten years ago, content was defined as books and music. Today lots of new content is distributed in new ways by viral distribution (new aggregation, new search and find, repackaged, etc.).

393.   *What does the old entertainment industry fail to recognise?* The traditional media companies have done a wonderful job in packaging experiences and delivering them to their audience. They also have had a lot of success extending, recycling and repositioning their products: Successful movies are shown in movie theatres, on television, cable, video and DVD. But, so far, when those images have migrated to the Web, the magic has stopped working.

394.   Consumers are not pirates. Without file sharing we would not have seen the move to commercial digital content. Young people and innovations at the edge are the killer application on the Internet. Internet entertainment satisfies the human need for social intercourse. Users create content, want to be part of a community with similar tastes. Through viral marketing, users act as a distribution channel. In the traditional entertainment model, the creator of the content is in the middle and the audience is at the edge. But the Internet offers a totally different mode of entertainment, with all the action taking place at the edges. The Internet platform has created a new hegemony: Instead of producers and advertisers dictating to the public what entertainment they should be consuming, Internet users are acting on their own needs. This has turned the traditional economies of scale of large media around, making it possible to publish for audiences of just a few hundred people. And if those few hundred users are compelled enough, the effect will be viral.

Questions and Answers

395.   Questions around the issue of what will be the trigger bringing a new wave of investment and what role special programmes for SMEs do play. It was pointed out that market intelligence was crucial for SMEs.

Session 8B: Content diffusion: IPR, DRM, licensing content security, standards

396.   This session focused on business and policy solutions and challenges to diffusing content (including new kinds of content), and adapting business models, while protecting intellectual property. The starting point was the OECD Council Recommendation on Broadband Development that member countries should implement regulatory frameworks that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights and DRM without disadvantaging innovative e-business models.

397.   Key questions addressed were:

- What are the outlooks of content suppliers, distributors, consumers and users and are there particular obstacles to commercial and non-commercial digital delivery?

- How are new distribution channels affecting established content protection mechanisms?

- How well are established systems of intellectual property protection working in the new content distribution environment (including user-created content), and are new forms of licensing developing for the global Internet?

- What are the opportunities and challenges of DRM for suppliers, distributors and users?

- Are there standards (*e.g.* content interoperability, payments), which need special attention?

Chair: Marco Ricolfi, Professor, University of Turin, Law School

398.   Ricolfi pointed out that in the past usually content went through publishers. Today a short route from creators to the public and sharing of digital content among communities of peers (not peer-to-peer as such - but more generally joint creation and distribution) is made possible; thus disintermediation possibilities arise. Individual rights management versus collective management is a new possibility for jumping over traditional distributors and collecting societies.

399.   A new policy dilemma arises: While in the last century we had big dilemmas between market and regulation and how to balance between the two approaches, today a whole new non-market and decentralised area, the so-called "social sharing" area, arises. On one hand there is a thriving business sector which still needs considerable IPR protection and on the other hand there is the user-driven sector which has different incentives to create, use and to share. The question is how to devise rules that allow for the coexistence of market and non-market creation and distribution and foster innovation without blocking downstream innovation.

400.   Ricolfi compared the traditional agricultural / biotechnology sectors to the digital content sector with respect to the possibility of sharing and the exchange of rights. Biodiversity and new more resistant species rely on cross-fertilisation (sharing) of different species. Too much IPR protection would make this innovation and development impossible. Patent and copyright law should create fair uses to prevent the blocking of innovation. While IPR should be provided to media companies these should not stifle non-market mechanisms.

401.   Other questions are: What is the future of DRM? How is it going to coexist with individual rights management? What is the role of technological protection measures / DRM? Interoperability and standards are currently a problem. How to enable and not disable users?

Stan Liebowitz, Professor, Center for Analysis of Property Rights and Innovation, University of Texas

402.   The broad questions have not changed from when Liebowitz first analysed the impact of photocopying on publishing.

403.   *Promises and threats from the digital economy:* Digital transmission is the most efficient way to move information. Internet uses few resources and is fast. The future retailing of books, movies, television, music, software and other information goods lies in digital transmission. Everything which can be digitised should be sold on the Internet.

404.   While iTunes is now a success, digital music sales in 2005 still represent less than 5% of overall sales. So why are online sales of music such a failure? Unauthorised copying is the reason. People are still downloading in an illegitimate fashion. It is important to understand that this is not a case of a superior technology (file-sharing) driving out an inferior technology. It is a case of a new technology that destroys property rights, thus destroying the industry.

405.   What is to be done? *i*) Industry Actions (DRM and more lawsuits against 'theft') and *ii*) possible government actions which help stop file sharing. Liebowitz argues that a compulsory licence / P2P licence is a bad idea as governments' prior history at running markets is rather poor.

406.   Ricolfi pointed out that it is very difficult to produce reliable figures on P2P use and its impact on music industry revenues.

Leonardo Chiariglione, CEO and Digital Media Strategist, CEDEO.net

407.   The entry point of Chiariglione was that debates about DRM are in a miserable state. Purpose of his speech is to clarify some of the issues that appear more confused in the debate and indicate an avenue of development.

408.   Apparently many consider rights management as one evil result of digital technologies. But DRM is a technological response to the rights holders' demonstrated need over the millennia to be able to manage their content when it is released for publication. DRM can take the form of management but does not necessarily imply protection using digital technologies. A proposed definition of DRM: *A system of*

Information Technology components and services which strives to distribute and control content and its rights. This operates in an environment driven by law, policies and business models.

409.   The industry has already made huge investments in the development of DRM solutions, and DRM is here to stay. However, the lack of interoperability between DRM solutions, along with serious limitations to what end users have been accustomed to expect from digital media, is a source of concern to many. The way DRM is currently developing is not in the interest of creators and end users but generally also not in the interest of many industry players. Today's DRM is not efficient because *i*) it requires setting up entire value chains mostly based on proprietary systems which is too costly because of lack of economies of scale; *ii*) it makes it difficult to experiment new business models; *iii*) it raises the entry barrier to a value chain; *iv*) it gives rights holders full control of what happens downstream in the value chain; *v*) it limits what end-users have grown accustomed to consider as *the* way to use media; *vi*) it disables many interesting uses of media that were enabled by digital technologies.

410.   It is clear that certain value chain players see a benefit in one of these supposed shortcomings. The problem is that for any of those points there is a host of other industry players, including creators and end users, who object to it. A level playing field is needed.

411.   *The proposed Plan B:* Plan B is called interoperable and scalable DRM (isDRM) and it is to provide technology components which let us decide through value chains which access is possible. With interoperable DRM systems it is possible for authors and intermediaries to enter the value chain and control the exploitation of their works through a variety of business models due to low entry barriers. Specifications are industry agnostic. Value chains are interoperable within value chains of the same type; but, foremost, interoperable and scalable. Implementing plan B is the task of the Digital Media Project (DMP, www.dmpf.org).

Questions and Answers

412.   Ricolfi mentioned that DRM can also be seen as a a possibility to enable authors to distribute their work. DRM can also be coupled with collecting societies and many other options arise. Ricolfi also made clear that the people that use DRM are also the public at large (governments and citizens, etc.) and not only of consumers of digital music. This needs to take this into account when discussing/regulating DRM.

Fred Von Lohmann, Senior Intellectual Property Attorney, EFF

413.   *The consumer is only part of the public:* In discussions about the future of broadband and digital distribution, the habitual use of the terms "consumer" or "customer" often obscure the wide range of public interests that are at stake. Particularly when it comes to copyright and DRM technologies, it is not merely "consumers" who will be affected by policy decisions. Copyright law and DRM technologies will also influence the ways in which libraries, amateur creators, disabled populations, and educators are able to utilise new broadband possibilities. Policymakers have a special responsibility to see to it that the interests of all segments of the public are considered, not only those whose expenditures in the market give them the ability to influence the marketplace. For example, the blind will never have enough market power to ensure that their needs are met by copyright and DRM. The same is true for many educational users, amateur creators, and libraries.

414.   *DRM is a failure:* All DRM to date has failed (*e.g.* CD copy protection). It currently only prevents competition and innovation and now it is creating security and privacy threats. DRM will never be fully secure and interoperable DRMs will never exist if businesses see DRM as a proprietary technology to protect their platforms.

415.   *Copyright and DRM threaten the "New Amateur":* We are witnessing the renaissance of the "amateur creator". These are producing content different from cultural artefacts. The importance of sharing to our culture is going up. As people begin forming communities on line, it is entirely natural that they want to discuss, reference, remix, and adapt the cultural objects around them - music, movies, television, literature. DRM may prevent them from doing so.

416.   *Role of copyright and DRM in the new broadband markets:* Many speakers have implied that strong copyright enforcement and deployment of DRM are critical to the broadband future. Yet, when compared to the themes above, this seems misguided. Early indications are that copyright enforcement and DRM are impeding amateur creators with "mash-up" artists who are remixing music and sharing it on a non-commercial basis being pursued.

417.   *Protecting innovation protects the public:* **A** paramount concern of the public is innovation. Regulators must not, in the name of copyright or otherwise, restrict technologies to "customary uses". Copyright and DRM represent one of the biggest threats to innovation in the broadband environment. It should be ensured that innovators do not have to ask permission before they introduce disruptive new technologies. History teaches us that innovation flourishes best in an environment of low copyright protection. In the US, the player piano, broadcast radio, cable television, and the VCR all arose thanks to loopholes in copyright regulation. Copyright is important, but strong protection may not be consistent with new broadband industries that depend on disruptive innovation. Emerging markets characterised by low copyright protection, such as Korea, China and India, may have an advantage in adapting to the opportunities created by the broadband economy.

418.   Reactions: Ricolfi pointed out that consumers may not be happy with DRM itself but may still enjoy the fruits of the protection it provides. Wragg pointed out that artists are often calling up the labels to complain about mash up and defacing of their work.

419.   Introducing the next speaker, Ricolfi mentioned that in the digital age it can be questioned whether authors do not want to dispense with collecting societies and manage their rights themselves.

Giorgio Assumma, President, SIAE, Italian Collecting Society

420.   *Moral and economic rights of authors continue to be important in an online environment:* The role of the author is undeniably crucial, both in the off line and in the on line field, since she/he creates the essential material for any cultural expression. Because of the inseparable intellectual relationship with his work, the author is not only granted an economic right, but also a moral right, which is inalienable. Copyright is a key element in the protection of creativity and in the cultural development. Authors' / collecting societies reassert the necessity of reducing the impact of piracy and counterfeiting.

421.   *The role of authors' societies / collecting societies is irreplaceable*: The authors' societies[2] are now in the focus of the debate with regard to licensing policies in the online environment. Mr. Assumma provided the reasons which have so far determined the success of the collecting societies. These societies were established by the authors themselves in order not only to keep the exploitation of their works under control and to facilitate their dissemination, but also to strengthen the authors' bargaining power. Authors' societies manage the rights of their members, negotiate general licences and specific licensing conditions, maintain the value of works and attract right holders thanks to the quality of the services they offer to them, as their purpose is to obtain better conditions for the exploitation of the repertoire entrusted to them. It is thanks to their society's activity that authors with low contractual power or working for niche markets

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[2] Mr. Assumma deeply dislikes the term "collecting societies". It is a reductive term, as it does not properly describe the manifold functions and activities they carry out which are not at all limited to the collection of rights.

can efficiently manage their rights and maintain full control (at any point rights holders can withdraw their repertoire from the society's management).

422. *Advantages of collective management: i*) simpler and faster access to repertoire, with no need to contact every single right-owner, *ii*) lower costs of transaction, *iii*) access to works on the basis of non-discriminatory conditions, *iv*) possibility for new business initiatives to overcome entry barriers when launching new legitimate services, *v*) certainty of law, transparency and equality of conditions, accountability of the licensor as to the repertoire exploitation, *vi*) possibility of rapid legal access to foreign market, *vii*) finally, collective management is also a safeguard against market distortions deriving from unauthorized exploitation of music, that threatens the success of legitimate services.

423.   *Changes so far:* Though some new forms of access to digital content facilitating a more immediate contact between authors and their public are now available (as is the case through artists' own Web sites with an advertising purpose), up to now digitisation has substantially modified only the distribution of musical contents, while the most costly phases, that is to say research, development and promotion of new talents, have not been affected.

424. *DRM tool are no alternative to authors' / collecting societies:* DRM tools do not constitute a real alternative to authors' societies yet. Real individual management takes place only when an author manages his rights directly on his own, Even if they were actually effective, DRMs would not be operated by individual authors but, again, authors would rely on *assignees,* like record producers. A full disintermediation is proving to be quite unlikely; old intermediaries are often replaced by new ones which are neither cheaper nor more efficient. Next to the possible failure of the technical protection measures, DRM systems cannot increase the feeble contractual power of authors facing mass-media groups.

425.   *Concerns about the Recommendation on collecting societies of the European Commission:* In October 2005, the European Commission published a guideline of a possible intervention on the collective management of rights for musical services. Authors' societies are working towards a *one-stop-shop* system for multi-territorial-multi-repertoire licensing. Today there is concern that the options indicated by the European Commission could jeopardise the traditional system of collective management and as a result the smallest authors' societies and thus cultural diversity could be seriously weakened. The Commission has taken note of the collective management societies' function in online musical services and has limited its intervention to providing some guidelines for correct carrying out their activity.

426.   *Authors' societies will have to reorganise themselves but have adapted to change before:* The authors' societies have previously adjusted to new media developments. Doubtlessly authors' societies have to re-organise themselves in order to remain competitive, to continue to provide value to their members and to safeguard their income by granting licences consistent with the emerging business models, while avoiding operational burdens on users as well as on rights holders. While the effective protection of copyright on a worldwide basis relies on the co-operation among societies, the competition among them has to be focussed on the quality of their services, including prompt distribution of revenues.

427.   *Real problems are DRM incompatibilities and lack of interoperability*: At present, the main problem for the market development is the incompatibility of the various DRM systems, multiplied by the diversification of digital media. The lack of interoperability is a serious disadvantage for consumers, whose access to legitimate services is thus limited. Even billing systems should be standardised to facilitate the access of youngsters, who are more easily inclined to turn to illegal downloading.

Barney Wragg, Senior VP eLabs, Universal Music Group International

428.   Wragg pointed out that he wanted to inject some realism into the debate. The legitimate on-line business is working. Digital Music Market in 2005 = USD 1.1bn, 300% growth since 2004. Over 330 digital music stores exist in over 25 countries world wide. New business models have emerged: portable subscription, legitimate P2P, converged online and mobile services, advertising supported on-demand entertainment, digital only labels and other digital outlets for artists. However, new business models are still at the early stages. Consumer-focused technology with well-designed user interfaces and network improvements are needed.

429.   The role of record companies is to invest in artists and make judgements as to what return on investment can be expected from that artist. The recording business involves a large upfront cash investment to the artist (including the marketing of the artist's work) with substantial investment risks. A record company is doing extremely well if 1 in 10 artists invested in is profitable. A record company funds new artists from profits, new releases and catalogue sales. Concerts, t-shirts and merchandising are typically owned and controlled by the artist.

430.   Universal's digital objective is to license as widely as possible and to protect its intellectual assets. It will license if *i*). commercial terms are interesting, *ii*). the technological platform is secure and good (sensible DRM approach) and *iii*) if a good marketing plan exists. In parallel, the record industry tries to make the unlicensed and unauthorised use of music as poor an experience as possible. All possible anti-piracy measures (including legal action against infringing companies and individuals) are envisaged.

431.   Major stumbling blocks are the lack of interoperability (disagreement between technology and service companies to establish de-facto technology) and unrealistic expectations by value chain participants (*e.g.* mobile operators expecting very high prices for song downloads as compared to fixed line business). Abnormal high bandwidth charges limit the market development.

Sarah Deutsch, Vice President and Associate General Counsel Verizon Communications

432.   Deutsch pointed out that new synergies are being discovered between pipes and content. Only a few years ago, broadband was cited as a major threat to the content community. Despite these fears, today the marketplace is embracing broadband. Content owners and communications companies are discovering new synergies and entering business deals.

433.   Local telephone companies are in the early stages of deploying new high-speed fibre optic networks and Verizon has rolled out its FiOs TV service (large bandwidth Internet and video services over fibre). For this services, Verizon signed dozens of programming deals over the past year and has taken seriously the obligation to protect copyrighted works. Given the competition between telephone companies and cable, the former have to be able to offer diverse content.

434.   *Deals between ISPs and content firms are best left to the market.* Verizon has signed a recent deal with Disney to carry Disney programming and Internet services. As part of that agreement, Verizon has agreed to co-operate, to help curb infringement of Disney's copyrighted works over the Internet while at the same time appropriately safeguarding the privacy of Verizon Internet service subscribers. Under the agreement, consistent with the Digital Millennium Copyright Act, Verizon will forward warning notices to subscribers who Disney alleges are engaged in copyright infringement of their content without identifying the subscribers to Disney. Subscriber names will be turned over pursuant to lawful subpoena, including termination possibility. This is an excellent example of a market place solution.

435.   *Wireless opportunities loom large:* Wireless is another area where copyrighted content and communications industry interests are converging. One successful new service Verizon offers is called

VCast, which offers short video clips, entertainment, sports, weather and premium content, mobile Web and 3D games and music downloads. This platform offers new licensing opportunities for content owners. Wireless offerings also have to offer solutions to protect copyrighted works.

436.   *Private marketplace DRM solutions should be encouraged.* IPR owners have the right to protect their property. However, with the power that DRM affords comes a grave responsibility to use that power appropriately. Users also have rights and DRM can also provoke a consumer backlash. Does DRM need to be standardised? DMCA suggests mandatory open standard setting exercises. Those standard setting talks have never occurred! But there are many DRM solutions and most seem to work.

437.   Pipes and content went through unpleasant times. But now is time to look ahead!

Questions and Answers

438.   *Comment by Marc Gauvin*: A broad vision of DRM needs to prevail. DRM is not only about access limitation but also potentially making access possible. It can benefit end users and providers.

439.   *Barney Wragg (Universal Music Group International)*: He does not advocate a one-size-fits-all approach to DRM. It is about management of rights. Artists have the choice to give their works away for free. But where creators decide how to commercialise and make their work accessible, then the decision should be respected.

440.   *Fred Von Lohmann (Electronic Frontier Foundation)*: It is true that theoretically DRM could allow for many possibilities. But today none of those open characteristics have become a reality. The EFF alternative is a collective approach to making sure that artists are compensated. The Italian Consumer Association added that the suggested peer-to-peer licence (everybody paying USD 5 per month for free access to all music over P2P) is a good idea which should receive more airplay because it is economically viable.

441.   *Barney Wragg*: is concerned with compulsory licenses. Artists then lose the choice of how their work can be used (no influence on whether the work is on P2P networks).

442.   *Stan Liebowitz (Center for Analysis of Property rights and Innovation, University of Texas)*: Liebowitz pointed out that - in the P2P licence scenario - it is not clear how to devise tax which grows or decreases appropriately to finance the music production. Currently, the market makes decisions about volumes and prices. In a more centralised compulsory licence scheme (P2P licence), the government would take these pricing decisions. But the government is prone to political powers and usually not good at fixing market prices. Ricolfi adding that markets are usually more efficient than governments and that the old models have proven quite successful.

443.   *Fred von Lohmann* pointed out that it is not all black and white (market vs. government). Collecting societies have worked quite well in the United States where they are quite competitive…implying that the competitiveness of collecting societies can be improved in Europe.

444.   *Question from Telecom Italia:* what would be the incentive for mobile operators to invest in very expensive infrastructure.

445.   *Answer by Barney Wragg*: He suggested that prices should not be too high. Content owners do not dictate retail price. Legally content companies can only set the wholesale price. If mobile operators want to make significantly higher margins than fixed operators / music stores, this is their choice. Wragg pointed out that having high volume / lower price business models can be more lucrative than

high-price/low volume business models. Wragg also pointed out that labels exist in a competitive environment with their customers being artists and consumers at the same time.

446.   The Arts Council of England pointed out that artists rely on access to prior art and that they use technology to create new expressions. Artists should thus not be divided from users too much. And users are now also becoming artists. In general, the inhibition of cultural evolutions should be prevented. It is also not right that independent companies are being paid less than big labels for songs online.

Session 9: Policy Roundtable: Identifying priority issues, tools and policy challenges: Moving forward

447.   The overall aim was to look forward to new issues, challenges and policy priorities that need to be addressed. It built on the themes laid out in previous sessions covering creativity, value chains and business models, new content and platform development, new user demands and access routes, the interaction between creative supply, digital rights and digital media/the Internet, and pushed them forward by identifying business and policy solutions that encourage creation, development and use of digital content.

Chair: Hugo Parr, Chair of the OECD Committee for Information, Computer and Communications Policy (ICCP)

448.   Hugo Parr pointed out that as Chairman of the ICCP, he has encouraged a greater emphasis on digital content - because governments will increasingly need advice and independent analysis in this very dynamic area. The conference puts digital content right at the top of the policy agenda, where it belongs. His questions to the panel:

- How does regulation keep up with the pace of technology and market development, when major changes occur on timescales of +/- 1 year? Should regulation try to keep up?

- What are the top two priorities for future policy work on Digital Content, for governments, for business, for international organisations, and for the OECD in particular?

- What adjustments are needed to find an optimal balance between the interests of suppliers (including owners of IPR) and users, in the Digital Age? (Reference: point 9, OECD Council Recommendation on Broadband, 2004: Regulatory frameworks that balance the interests of suppliers and users, in areas such as the protection of intellectual property rights, and DRM without disadvantaging innovative e-business models.

Masakazu Toyoda, Director-General, Japanese Ministry of Economy, Trade and Industry

449.   According to Japan, digital content poses three main challenges to governments:

- Content creation: creating high quality content through a good business environment for the supply of high-quality digital content.

- Content diffusion: diffusing in a satisfactory manner for both suppliers and users while facilitating good and healthy relationships between suppliers and users.

- Enhancing competition: enhancing innovation by avoiding monopolies and promoting innovation.

450.   The idea is that growth of the digital content market leads to growth of the overall content market. Features of digital content are: Easy to edit and process, quality maintained when copied, easy to search, easy to store, low cost and convenient. In the transition of digital content market there are substantial advantages for creators, users and distributors.

1) Promoting of content creation: Improving the business environment for the supply of high-quality digital content

451.   Problem 1：Lack of human resources and finance. Potential solutions: Human resources development（*e.g.* producers, creators) and new financial arrangements. The Japanese government is helping with training and to improve access to capital by allowing alternative financing options (*e.g.* funds, trusts, introduction of private funds).

452.   Problem 2: Existence of market barriers. Potential solutions: Market liberalisation in a trade sense, international collaboration and measures against piracy.

453.   Problem 3: Limited distribution channels. Potential solutions: Develop new distribution channels (*e.g.* Internet, digital cinema) and facilitate the convergence of the broadcasting and telecom business.

2) Promoting diffusion

454.   Problem 1: Adequate balance between protection and use of IPRs/content. Potential solutions: Creative Commons, improve the effectiveness of arbitration mechanisms and the process of rights clearance. Find practical solutions to the balance between suppliers and users (creative commons, arbitration, new DRM forms) and address the need for appropriate mechanisms to clear rights.

455.   Problem 2: Adverse effects of harmful information on young children. Potential solutions: Develop filtering software, establish an international rating standard.

456.   Problem 3: Anxiety about cultural uniformity. Potential solutions: Regulation might not be an effective solution. Promote cultural and educational policy to encourage cultural diversity. Produce and diffuse content promoting cultural diversity.

III) Enhancing competition/innovation and avoiding monopolies

457.   Two issues which are becoming increasingly important: How to promote competition and innovation by constructing healthy digital content supply chains?

458.   Problem 1: Concern with an increasingly monopolistic supply of DRM, possibly leading to undesirable pricing policies and a lack of innovation. Open standards are needed. Potential solutions:

   –   Prevent monopoly by promoting the unbundling of DRM software in open source software format (as a platform for digital content distribution) and content-viewer applications; monitor the situation and issue recommendations. Antitrust agency may play a key role.

   –   As part of an overall strategy to promote Open Source Software and the interoperability of applications on different open source systems. - Promote open standards for embedded DRM interfaces, ensuring compatibility with any content-viewer, thus encouraging innovation and the development of alternatives. Secure interoperability of embedded DRM among different OSs, as well as different hardware platforms.

459.   Problem 2: Tendency towards monopoly in Search Engines/Digital Archives, raising concerns about lack of/declining neutrality in search services. (*e.g.* influence of advertisement or government). Potential solutions: Prevent monopoly: Monitor and issue recommendations also by international organisations like the OECD/interoperability issues should be taken up. Encourage the development of alternatives. Enhance the development of technology to maintain neutrality in search services and/or personalise search results based on individual preferences.

460.   OECD has important role to build a healthy environment for digital content by addressing these challenges.

Pasquale Pistorio, Vice President Confindustria for Research and Innovation / Honorary President STMicroelectronics

461.   The situation of digital content in Italy has improved significantly in recent years, with more firms having access to PCs (including SMEs and improved PC to student ratios in schools) with more and more broadband subscribers (7 million broadband subscribers in 2005), with e-commerce growing fast, with more users of new applications like Skype and blogs, with more UMTS users, the effective implementation of digital terrestrial TV, the rise of IPTV and mobile TV, the rise of more e-government applications and users. Italy has more catching-up to do but this is a very good development.

462.   The role of governments should be to promote not to control. Policies addressed:

- Develop not only diffusion/utilisation of digital content but also creation of content. We need to sponsor innovation in firms creating digital content. Pistorio recommends strong government support of R&D and innovation to expand the supply side. R&D and innovation also has to spur the development of infrastructure which is done by operators. The general R&D policy in Italy and for digital content more generally is lagging and needs improvement.

- Policies where governments and international organisations should provide frameworks without inhibiting the e-economy: *i*) Harmonisation of value-added and other taxes is necessary; *ii*) Harmonisation of IPR throughout Europe; *iii)* Simplify system of invoicing and payments.

- Policies should encourage diffusion of digital lifestyles to business, government and users (including public sector information - to create demand by public administration. Digitisation of Italian art and buildings should be a high priority as it leads to demand creation).

Marybeth Peters, U.S. Register of Copyrights, Director, United States Copyright Office

463.   Peters pointed out that her focus is on the creation and protection of digital content. The challenge in the digital economy is to preserve the incentive to create new works and use new technologies to distribute them to users and consumers in the face of the huge competitive threat from illicit use of technology by infringers. Since its inception, copyright law has responded to technological change. Protecting the output of authors is critical. The ever-important challenge is achieving the right balance between the rights of authors and limited exceptions that reflect public policy goals. This includes making sure that beneficial uses of works are not being needlessly stifled. Countries need copyright laws which are up to date and embrace all forms of content. Countries may also want to re-examine the exceptions under their law in light of the changes wrought by digital media (*e.g.* exceptions for libraries and archives, treatment of so-called "orphan works").

464.   *International protection is absolutely critical:* International protection, which should be harmonised to the greatest extent possible, is critical. The two WIPO treaties require member countries to

recognise certain exclusive rights designed for activities that take place over new digital communications networks. Among other things, these treaties require that authors enjoy a right of communication to the public, including the right of making available.

465.   *Technological adjuncts to copyright protection:* While these treaties leave the existing framework of exclusive rights largely intact, they contain new provisions on technological adjuncts to copyright protection. Countries must put legal remedies in place against the circumvention of technological measures that copyright owners use to safeguard their rights. They must also provide legal remedies against persons who delete or alter rights management information attached to the work. The United States implemented these key provisions in Title I of the Digital Millennium Copyright Act (DMCA) by creating a new form of liability for the making and selling of devices and services whose primary purpose is to circumvent technological measures that control access to copyrighted works, or that control reproduction, distribution, public performance, or display of these works. Additionally, the United States put in place a legal prohibition to the act of circumventing access controls.

466.   *Criminal Liability and Secondary Liability:* Recent changes to United States law have focused on the area of liability and remedies. The Internet and new technologies require the creation of new tools to address digital works protection under criminal law. Under the "No Electronic Theft Act" for example, individuals are prosecuted under misdemeanour or felony provisions in cases involving large-scale illegal reproduction or distribution of copyrighted works where the infringers act wilfully but without a discernible profit motive. Other changes to US law provide for criminalising the making of audiovisual recordings in theatres with intent to distribute and criminalising the unauthorised distribution of a work that is being prepared for commercial distribution with intent to disseminate it over the Internet.

467.   An important goal in the Internet age is to discourage businesses from providing unauthorised access to copyrighted works as a draw for customers, thus benefiting the business — albeit indirectly — from the increase in "traffic" on their Website or software portal. Congress and the courts in the United States have addressed the scope of secondary liability for those who create or maintain peer-to-peer networks which enable direct infringement by the users of such networks (June, 2005, US Supreme Court on *MGM v. Grokster*). Secondary liability for distributors of such "enabling" software has proven an effective means of enforcement, by placing liability on those who are benefiting from the infringement (by deriving advertising revenues) and who are in a position to control or restrain it.

468.   *Secondary liability doctrines are critical:* Internationally, courts in Australia, Korea, Chinese Taipei, and now Hong Kong, China have reached a similar result. However, the range of national laws addressing these issues generally exhibit little uniformity, whether it be liability for a company that supplies peer-to-peer technology to encourage infringement or, as the US addressed in Title II of the DMCA, an Internet Service Provider that provides facilities used by others to infringe. This lack of uniformity might suggest a need for international standards.

469.   *Plea for Marketplace Solutions:* Government action should not displace market-driven solutions to the underlying problems. For example, music licensing has also been a real challenge in the United States. But compulsory licence provisions are not the acceptable substitute for effective and efficient licensing mechanisms that are driven by the market place. It is in the best interest of rightsholders to negotiate privately for licensing. This ensures the author's ability to extract the actual value of his or her works from the market — no more, and no less — while a compulsory licence regime forces authors to donate a portion of the value of their works to other profit-seeking entities. Ensuring flexibility in the marketplace is particularly important in a climate of rapid technological change where efficiency is needed to make sure works continue to be created and disseminated to the public.

470.   Collective administration of rights represents a voluntary, non-exclusive response to market forces which preserves the full value of an owner's exclusive rights in his or her works. Calls for compulsory licensing to "provide access to all" ignore the fundamental incentive to create which is the entire purpose behind copyright law. Such a significant derogation from the norm of exclusive rights could cause significant distortions in the marketplace. Government price controls lead to imbalance of the quantity supplied and demanded. Compulsory licences carry a high administration cost. Also, it might be extraordinarily difficult to reverse such a regime, once initiated, due to the "lock-in" effect created by reliance of millions of users on the continued availability of compulsory licenscs.

471.   The "marketplace solution" has proven itself as a working solution to copyright dissemination in the digital economy in several instances.

Andrea Pontremoli, CEO and President, IBM Italy

472.   Pontremoli sees three revolutions:

- Computing and communication capabilities: Incredible development with ever-smaller items and increased capability of communication and connection. The combined capabilities of pervasive computing and large computing power enable us to do things that were not possible in the past (*e.g.* enabled the study of DNS / molecular medicine).

- The uptake of open standards allows communication among different devices and countries and the possibility to link different kinds of businesses. The Internet would not exist without the capability to exchange data across borders and different computing systems.

- Companies, governments and other institutions can evolve from standalone entities to integrated elements within a digital ecosystem.

473.   As this new model is driving progress in all fields of economy and society. A new model of innovation is emerging, which is open, collaborative, multidisciplinary and global. We need to rethink our approach to innovation and the way we support creativity, new ideas and innovation. We must find a new balance between protecting the interests of individuals and companies that create truly new and useful inventions and the interests of innovative communities and creative ecosystems (*e.g.* in 2005 IBM granted access to more than 500 software patents). We should think less about intellectual property and more about intellectual capital, assets that are leveraged and used to create value.

474.   Also, we must focus on developing the next generation of innovation leaders. Technology is now a central component of any business strategy. It is this combination of technology with strategic insight that produces innovation.

Fabio Colasanti, Director-General, Information Society & Media, European Commission

475.   Colasanti talked about priorities identified by the EU. He pointed out that during the conference we heard a lot about music, traditional content. But content should not be considered only in a traditional way (*e.g.* music, cinematographic works) but it should be also be conceived as everything that is transmitted through delivery platforms.

476.   Content is important for governments for two main reasons:

- Positive effects it produces on our everyday life (*e.g.* enhanced learning).

- Main growth driver of the electronic communications sector, with an enormous potential in terms of growth and employment (representing 50% of the ICT sector).

477.   How governments support content? Traditional instruments:

- System of rules which enable a positive framework for the development of content.

- Financial support where there are market failures.

- Activities in which governments are engaging as suppliers of services and content.

478.   The EU is active in these three areas

- **Legislation:** There is limited action in this area due to the reduced responsibilities at the Community level and the difficulties in regulating promptly and efficiently in this highly dynamic environment. However, the EU is active in trying to establish the appropriate framework for actors by being as technologically neutral as possible and by facilitating work that helps to strike the right balance between service providers and content holders (*e.g.* High Level groups on DRMs and Film on-line).

- **Financial Support:** Financial support is provided through the Information Society and Media Programmes. ICT Research: Circa EUR1 billion per year is invested in research, part of which is dedicated to content technologies. Media Programme: addresses, for example, the lack of distribution channels for cinematographic works in Europe.

- **Government services:** Although the EU does not provide services directly, it has an active role in promoting, for example, e-health or e-government initiatives. This is performed by bringing together relevant stakeholders, in order to encourage best practice and to develop common frameworks and guidelines.

479.   In the discussion Colasanti pointed out that different legal regimes across European member states do not facilitate the development of the future digital economy.

Aurelio De Laurentiis, film producer, Filmauro

480.   Mr. de Laurentiis picked up on two important points made by Mr. Pontremoli:

- Social innovation and integration which is not well understood by politicians.

- What is integration? It's the convergence between mobile devices and Internet.

481.   Mr. de Laurentiis mentioned that hardware companies have been the poison of integration as they defended the lower costs of their devices and refused to engage in discussions with service and content providers to fight against piracy by introducing new protection systems that could have increased the costs of their devices, with an obvious reduction of their profits.

482.   Europe is penalising itself. Contents are the real fuel of the economy but this is not recognised in Europe. We must understand that contents are the real protagonist of the new millennium. This is a decision between being a wealthy economy and a poor economy. Part of the problem also comes from European banks. They do not have the knowledge or the expertise when it comes to audiovisual content and prefer to finance traditional goods. Everything is integration between mobile telephones and Internet.

In EU we are stronger for mobile. If we let our young generation drive the change, then we can succeed. Europe also needs to be aware of developments and competitive challenges posed by China, India and Brazil.

483.   Policy: Industry needs to be free from regulation (except legislation avoiding piracy). Roundtables for consultations between all audiovisual players need to be set up to facilitate the creation of content and its commercialisation. And it needs to be recognised that the Internet is an international medium, so local approaches often do not work.

484.   Reactions in defence of Europe: Pistorio stressed that the EU has also many strengths, pointing to GSM, Linux, etc. In addition, Parr stressed that Europeans are very innovative users and early technology adopters.

Questions and Answers

485.   *Jeremy Beale (Confederation of British Industries)* pointed out that the discussion had mainly been about entertainment content in regard to music, film, etc. But there was a broader question of how audio-visual material can be used as an input to add value to services produced by a broad range of businesses, and how this can help firms in OECD economies to compete vis-à-vis lower cost countries such as China and India. The OECD was in a unique position to identify and help understanding of how such value-adding/market expansion could and was occurring, along with the changes in regulatory regimes that could facilitate the growth of such "new media" markets.

486.   *Pasquale Pistorio (STMicroelectronics / Confindustria)* mentioned that digital content is more than entertainment and has to be understood as many aspects which improve the quality of life. There is tremendous work to be done in areas such as e-government, the fight against the digital divide, diffusing ICTs in school.

487.   *Fabio Colasanti (European Commission)* pointed out that much could be gained if governments supplied services in more efficient and digital way. He also stated that the development of alternative systems of delivery (such as video-on-demand, online music stores) may be marginally more positive for smaller producers than for larger ones. This is an opportunity for European content.

488.   *Masakazu Toyoda (Japanese Ministry of Economy, Trade and Industry)* pointed out that in order to make the digital content industry competitive we need good infrastructure. Also, the government has the role to provide a vision about the future digital economy.

489.   *Ms Forbain (Vivendi)* pointed out that in France important debates on copyright law are taking place which are fraught with big misunderstandings. The problem as she perceives it is not coming from technical protection measures or DRM but from related interoperability problems. As the OECD is representing the biggest market, she suggested addressing interoperability and DRM issues in the frame of the OECD (the EU itself being too small).

490.   *Andrea Pontremoli (IBM Italy)* sketched out the priorities in terms of future work: *i)* ensuring interoperability and *ii)* having proper and universal definitions of topics such as open access, open source is important. The OECD can help on both counts.

491.   *Aurelio De Laurentiis (Filmauro)* pointed out that the digital era allows us to abolish systems of distribution and a more democratic result with bigger possibilities to distribute at low cost (including to niche markets, art movies, etc.). The creation of content is no longer the preserve of a few.

Final statement: Donald J. Johnston, Secretary-General, OECD

492.   The Secretary-General of the OECD closed the OECD-MIT conference on the "Future digital economy: Digital content creation, access and distribution". The aim of this conference had been to work out the roles of business, government, consumers, artists and all other players to create the right sort of environment that encourages the development, distribution and use of digital contents and ensure impacts on productivity, growth and employment.

493.   The striking aspect of the conference had been the extremely rich sessions which reflected the wide range of participants from the creator and user sides as well as business and government. All stressed the changes taking place and the potential of digital content not only in traditional content industries but across the whole economy. All stressed the fact that much more work remains. Current regulation and policy is being challenged by the opportunities of digital content and the Internet. The question is how can government policy possibly keep up with these fast-moving areas? This conference has helped identify the challenges to all actors.

494.   The most striking aspects:

- Users becoming providers of content and the ensuing democratisation of the entire field. This promises a lively future digital economy and lots of work to be done in this field.

- There were broad disagreements on intellectual property rights - and these disagreements will have to be focused on in future work.

495.   Looking at the conference conclusions, the OECD can make a major contribution to this debate and provide balanced analysis including all stakeholders. Already in 2004 the OECD Council Recommendation on Broadband Development steered the focus from infrastructure policies to broadband content and applications. However, there is a lot of remaining analytical work to be done at the OECD.

Final statement: Lucio Stanca, Italian Minister for Innovation and Technologies

496.   Minister Stanca stressed his commitment to continue work with the OECD - its role is to help governments to understand what needs to be done. The participation at the conference had been very rich. Stanca hopes to have a White Paper about the discussion on this conference to prepare future work.

497.   The most difficult challenge will be for governments. In this destructive but creative environment, next to economic growth, social, democratic and cultural growth are also at stake. After making available infrastructure, frameworks which strike the right balance between conflicting interests and which do not slow the development of the industry need to be devised. One needs to be neutral from the technology-perspective, one needs to act internationally, investment in R&D and pre-competitive projects are ever more important, the exploitation of government content and increasing its accessibility must be fostered. While the nature of some policies is difficult to determine, government has a big and undeniable role in digital content.

Rapporteur's Notes on the OECD Conference on Digital Content: Artist perspective
Michael Bracy (Future of Music Coalition)

498.   It is important to recognise the vast diversity of individuals who consider themselves creators and artists across the world – there is not one single "artist perspective" on these issues. OECD deserves credit for attempting to strike the balance between stakeholders.

499.   On the one hand, the advent of digital technologies has facilitated an unprecedented democratisation of the creation of, and access to, media. On the other hand, the ownership of the existing dominant media channels that serve an overwhelming majority of citizens/consumers has moved away from private ownership to publicly traded, multi-national corporations. The massive amounts of new content and new distribution channels conflict with the unprecedented consolidation of the traditional means of reaching consumers.

500.   As technology eliminates the barriers between communications technologies – from a "media" age to a "post-media" age – policymakers will establish the rules of the new marketplace. In a world of limited outlets media companies played the important role of filtering which art, entertainment and news content would be brought to the public. The transition from private to public ownership of media firms has fed a flurry of vertical and horizontal consolidations. Coupled with campaigns to loosen historic media ownership restrictions meant to emphasise localism, competition and diversity in media, this has led to the consolidation of traditional media channels, an outcome which is not ideal for many artists. Consolidated radio established a significant economic bar to any musician who wanted to have a song considered for airplay. In the digital music economy, artists grasped new technologies to record, promote and distribute their music, sometimes circumventing traditional structures. Consumers are seeking both alternate content and alternate ways of accessing this content.

501.   One of the overarching themes of the conference was challenges and opportunities – how to balance complicated issues of broadband deployment, take-up rates and the need for industry to obtain a return on investments. From the creative community perspective, other questions must also be addressed:

- As technology facilitates the evolution of new models for creation, marketing and distribution, what is the appropriate balance between the rights and needs of the "professional" artist, "semi-professional" artist and "amateur"?

- How can some benefits of the traditional structures of content distribution be maintained at the same time that the creative community is able to gain a new sense of opportunity, empowerment and access to the market.

- How can robust content protection can be implemented in a way that serves creativity, not the ability to reconstitute market chokepoints?

- Will artists have equal access to consumers via new broadband platforms, or will they have to enter into partnership agreements with larger corporations to ensure access? If these partnerships are necessary, what will the terms be?

502.   The Monday afternoon session on "Creation and access to content and the role of new commercial agreements" brought one of the most critical issues facing the music community to the fore: the idea that the very nature of innovation and the Internet makes it virtually impossible to have the benefits of an open Internet architecture without the downsides of unrestrained and illicit distribution of copyrighted works.

503. Tuesday opened with an excellent panel on "New ways to access knowledge and content: content digitisation by commercial players." This panel reinforced in an important way that discussions about digital content should not simply revolve around business strategies and consumers – rather the digital revolution is doing historic things in education, government services and culture. Also, it is important to recognise that the traditional copyright structures, particularly in the music industry, have not necessarily benefited the economic interests of creators. Alternate copyright and licensing models are an important part of the discussion of the role of intellectual property in the digital age.

504. The next panel focused on the question: "Are digital media and the Internet changing creative supply?" Whereas three decades ago it required significant capital investment to rent time in a professional recording studio, manufacture vinyl records and ship these records on trucks in huge quantities, artists now own the tools to create music themselves and make their work available to an infinite number of potential consumers. In this model, labels need to re-conceptualise their role in the value chain. In reality, a music economy with no barriers to entry leads to such a plethora of content that consumers will require filters. One future role for labels is applying their brand to a given piece of music, essentially validating the worth of a particular release. A second role is assisting the artist with marketing and business strategies.

505. Bracy is concerned that future business structures will replicate the flawed structures of today (*i.e.* artists having to get deals with internet service providers as they did earlier with labels). It is essential that the future relationship between artists and record companies be defined by the value that the label brings to the artist, not the requirement that the artist sign up with a label in order to have an opportunity to reach an audience. Independent labels deserve the right to fairly compete in the marketplace; in fact, as small, entrepreneurial risk-takers, they probably deserve a leg-up as a matter of public policy. An ideal digital marketplace will remove many of the fundamentally unfair market barriers that have benefited large copyright aggregators. DRM solutions are already in place and the broader questions are how to redefine fair use for a digital age and who will control DRM. Peer-to-peer was a somewhat unstoppable reaction to a basic market failure and, as stated earlier, the only response to illegal peer-to-peer was to establish legal, licensed services.

506. The concluding policy roundtable was remarkable for the absence of discussion of the huge issues facing the American creative community. While it is not possible to synthesize the diversity of creators' perspectives into a single voice, it is possible to pull out some common themes:

- Technological innovation creates unprecedented opportunities for content creation and distribution. It is critical that policy makers view these developments as significant positives, not only in economic terms, but cultural, educational and political as well.

- The priority for policy makers must not be to assist traditional telecommunications, media or content companies to replicate their business model in the digital world; rather, for these companies to survive and prosper, they must demonstrate additional value beyond their historic ability to dominate markets governed by scarcity.

- The greatest risk to the creative community is not access to information; rather it is the replication of vertical integration partnerships that dominate traditional media outlets today.

- Policy makers in the United States seem to have a great deal to learn from their colleagues in Europe and elsewhere who have dealt with issues like network neutrality.

**Rapporteur's Notes on the OECD Conference on Digital Content: Consumer perspective
Mark Cooper, Director of Research (Consumer Federation of America)**

507.   The "consumer" point of view has been transformed as thoroughly by the digital revolution as the nature and use of digital content itself. The business point of view must now be juxtaposed not only by the "consumer" point of view but also the "citizen," "creator" and "user" points of view.

508.   A digital divide was evident at the conference in the profound disagreement over the shape, future and impact of the digital revolution on the production and distribution of content. The digital content divide is between those who see the emergence of digital content as a fundamental shift in the nature of communications and social interaction and those who see it as a new business environment in which value chains are to be reconstructed. The reconstruction of business value chains is of little concern to those who believe the value of digital content should be measured in freedom of creation, use and expression. It is the threat to expression that the business value chain poses that they worry about.

509.   Humans are inhabitants of both physical space and cyberspace. We use technologies to conduct our daily activities. We produce and exchange content that is consumed – observed, heard or read. We create self-images and artifacts of culture. We express ideas and opinions about policy or politics. The ability of people to use powerful technologies to produce their own content, or share the content of others, to create rich images, and to speak with more powerful video images has been dramatically expanded by the digital revolution.

510.   The conference discussions got three things right: interactivity is a function of technology; access is a function of economics; and usability is determined by politics as implemented by technology. But they missed the fact that participation is a function of civic culture and human nature. People want to participate. Non-monetary values are strong and important.

511.   *Differing views of the digital society - the content industry view:* The world of analogue content was remarkably simple. Large content producers 'pushed' content to consumers. Today, with the shift from supply-push to demand-pull, content producers aim at managing their customer relations and build brand relations. The protection of the content industry's value with strengthened IPRs is of great interest to the content industry which who would like to recreate and preserve the scarcity value and control over distribution that analogue technology gave them. Copyright holders fear cannibalisation and commoditisation. To do so, the content industry must disccourage routine and ordinary uses of content that consumers have enjoyed. This ignores the fundamental balance that intellectual property rights were supposed to strike between establishing an incentive to create and allowing ideas, inventions, discoveries, symbols, images, and expressive works to circulate. Technical protection measures first and foremost protect market power.

512.   *Differing views of digital society - the alternative view:* The alternative view is centered on creativity and expression. People create culture and participate in politics by communicating with one another. The digital revolution has enabled the dramatic self-supply or production and distribution of content to which many had not previously had access. It is the democratisation of the production and distribution of cultural artifacts that seems to be the greatest change.

513.   *The dispute:* The most important issue not addressed in the conference is that the fundamental premise and purpose of Intellectual Property as an incentive scheme has broken down. While there was frequent mention of balance in legal relations, the voices calling for strengthening of property rights were much more audible. The counter-point, from the alternative view, is that the legal system must preserve the

legitimate rights that users have enjoyed in the past and not impede the expansion of expression that digital technologies will make possible in the future.

514.   The problem goes far beyond technology and is more fundamental. We do not agree on the underlying rights to be protected. The extension of copyright has been excessive. Copyright holders did not control their products in the past to the extent that they want to in the future.

515.   *Possible research agenda:* A tentative work agenda might include the following issues: First, putting intellectual property in its proper place (while balancing private incentives versus the public good); second, achieving new Digital rights definitions while integrating old rights (fair and legitimate use, etc.) and new rights (access to orphaned and out-of-print works) and, finally, accommodating new models of production and distribution (Open Source, Open Format, Open Access).