



# Capitalising on Convergence

DELIVERING VALUE AND DRIVING GROWTH IN A DIGITALLY CONVERGED WORLD

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Intellect is the trade association for the UK hi-tech industry. Our membership comprises organisations both large and small from the UK's information technology, telecommunications and electronics sectors. Intellect is the body UK hi-tech companies must be active in to:

**Influence Policy**  
**Improve Markets**  
**Enhance Business Performance**

The Intellect Digital Convergence Council (IDCC) brings together representatives from the telecoms, IT, consumer electronics, broadcasting and creative content sectors.

For further information on convergence visit  
[www.intellectuk.org/convergence](http://www.intellectuk.org/convergence)

Around the world, countries are competing for leadership in the global knowledge economy. Success in this race will depend upon how quickly countries can leverage the opportunities for innovation, investment and economic growth presented by convergence. With strengths in telecoms, IT and the creative industries; the right policy framework; and a converged approach to regulation, the UK can be a winner. But competition is intense, and our global competitors are moving at pace. The purpose of this report is to understand how the UK is performing in terms of its convergence readiness and to identify what else can be done to move the UK into the convergence fast lane.

Convergence between the telecoms, IT, consumer electronics, broadcasting and creative content sectors has long been talked about but it is now starting to have a real impact in the UK. It has the potential to deliver an unparalleled degree of choice, flexibility and convenience to users (both consumers and businesses) in terms of the way in which they access and exploit information, communication and new media content, services and applications.

*“With sufficient commitment, these recommendations are realistic, achievable and will benefit the UK.”*

The UK has a solid base on which to build, in both the production and consumption of digital services and the creation of an appropriate regulatory framework. The purpose of this report is not to criticise but to question what more could be done to move the UK forward. Despite important innovations, such as the establishment of Ofcom – which is starting to deliver real regulatory benefits – we cannot take continued progress for granted. It is clear that there are some significant leadership, policy, regulatory and industry challenges that will need to be addressed if we are going to leverage the potential social and economic value of convergence for the UK.

To address these issues and inject further drive, optimism and urgency in moving the UK forward, Intellect established the Intellect Digital Convergence Council (IDCC) to benchmark progress and identify opportunities for improvement. The IDCC has brought together in one forum, experts from across all of the converging industries and other key players such as retailers. To ensure wide representation, companies outside Intellect’s membership have been invited to participate in the Council. In this, the first stage of the IDCC’s work, we have aimed to set the scene for further action by developing our answers to the following questions:

- **What is convergence?**
- **Why does it matter?**
- **How convergence ready is the UK?**
- **How can we accelerate growth?**

This report addresses the key drivers and inhibitors of convergence and identifies the ‘state of readiness’ of the UK in terms of our current ability to achieve the significant benefits of convergence. We have conducted a readiness gap analysis for each of the six key convergence enablers: consumer awareness and demand; device convergence; content innovation and investment; infrastructure innovation and investment; commercial innovation and the policy and regulatory environment.

Finally, we have proposed a number of recommendations for industry, Government and regulators that are designed to help the UK to deliver more value and drive growth. We believe that with sufficient commitment, these recommendations are realistic, achievable and will benefit the UK. The IDCC, in partnership with other organisations, will continue to drive and monitor our progress.

## What is convergence?

Digital convergence across the telecoms, IT, broadcasting, media, and content sectors offers the opportunity for companies and their customers to do things differently and has usefully been defined as:

*“the successful application of rich multimedia products and integrated services that previously did not exist, or were provided separately, from organisations across the technology, media and telecoms sectors”<sup>1</sup>*

Digital convergence implies a world where information and content are digitised, personalised and accessible ‘on-demand’ via multiple fixed and mobile platforms and devices. A world where the user is more engaged, actively contributing to and interacting with services rather than simply passively consuming them.

Within industry, a new convergence value chain is forming which spans a wide variety of sectors and specialisations. This is leading to new commercial opportunities and threats. It also presents new challenges to the existing regulatory and policy framework, much of which was designed for the analogue world.

## Why does convergence matter?

Convergence has the potential both to create and to destroy value. Deloitte predicts that worldwide, it will lead to \$1 trillion shift in valuations and revenues in the converging sectors by 2010<sup>2</sup>. As such, it represents both a disruptive threat and a huge opportunity for companies across a wide and fast moving sector of the UK economy.

With ‘end-to-end’ strengths in the hi-tech and creative industries, the UK is well positioned to take advantage of the global convergence phenomenon and become a ‘net producer’ of convergence products, services, content and applications, rather than a ‘net consumer’. However, global competition is intensifying and several countries, including Japan, South Korea, China and India, are forging ahead to fulfil clearly stated objectives to become global leaders in broadband, hardware and software production.

The UK cannot afford to be complacent - there is a lot to lose. The UK hi-tech sector generates approximately 9% of GDP. In addition the UK creative industries account for about 8.4% of GDP. The key question is whether it is possible to accelerate the natural evolution towards convergence. The UK *must* aspire to do this if we are to be at the vanguard of global economies that exploit the convergence opportunity.

## How ready is the UK?

Overall, the UK is making good progress and has strengths in all of the key industries at the heart of convergence. It has a strong user base and it has made real progress in developing a regulatory and policy environment that supports investment and innovation by the private sector. The challenge for industry, Government and the regulators is to build on this progress to ensure the UK achieves a world leading position.

To assess the UK’s current ‘state of readiness’, and identify what more could be done to advance the UK’s position, the report considers how far the UK market has progressed in each of the key components of convergence: networks, devices, content, user awareness and demand, the commercial environment and the prevailing policy and regulatory environment.

## Consumer awareness and demand

Convergence begins and ends with the customer – their choices and preferences will shape the converged world. UK consumers are open to new technologies and are enthusiastic adopters when they see clear value and benefits. However, adoption has not been uniform and uncertainty about the value proposition is limiting the addressable market. Changes in consumer behaviour are notoriously difficult to predict and are rarely uniform. There is currently a divide between the behaviour of the most digitally literate consumers and those who have not yet seen the value of these new services or who do not have the basic skills or confidence to use them. However, this is likely to narrow over time as the mass-market catches up with the early adopters.

<sup>1</sup> www.deloitte.com

<sup>2</sup> Deloitte presentation to Intellect Consumer Electronics Conference – July 2005



Nevertheless, convergence brings with it fundamental social changes that will not be easy for all consumers to come to terms with. More can be done to raise awareness of the benefits of converged services and products to consumers. Industry needs to articulate benefits rather than technology features and address concerns about complexity, usability, support, safety and security.

#### **Device convergence**

Devices are of critical importance to the user's experience of convergence. Despite considerable innovation, further improvements are needed to improve usability and reduce complexity. Secure interoperability standards are being developed at an international level and the usability of devices will continue to improve through market led innovation. Despite the merging of previously distinct markets and the bundling of products and services, there has been no move to consolidate consumer support provision, which is critical to consumer perceptions of the benefits of convergence.

#### **Content innovation and investment**

The real value for the consumer is in content, applications and services. Consumers are keen to indulge their passion for content, which creates great opportunity in the converging market place. The challenge for industry is converting this enthusiasm into revenue. To date, consumers have often been motivated to get online and engage digitally by the opportunity to access free content. This needs to change. The value of content must be understood by consumers so that new business models can evolve. Industry must have confidence that Intellectual Property will be protected.

### Infrastructure innovation and investment

With consumers demanding more immediacy and convenience and the most attractive services becoming increasingly bandwidth hungry, convergence will be inhibited unless infrastructure keeps pace with, or even leaps ahead of, demand for bandwidth. For the network operators, the critical issue is whether speculative investment in next generation access infrastructures can be justified. But, if we are to move into the convergence 'fast lane', and accelerate the roll out of next generation networks and services, there is a need to consider all options to minimise the risks involved in new infrastructure investment.

### Commercial innovation

The process of convergence is disrupting traditional business models, which have previously defined sectors. This is leading companies to engage with new players and enter into new alliances and partnerships to exploit their core competencies and respond to new sources of competition. Convergence is fragmenting mass-market audiences into niche communities, presenting a major challenge to traditional advertising and broadcasting business models. In order for the UK to succeed, industry will need to continue to move away from traditional 'vertical silos' towards a more horizontally converged structure.

### Policy and regulatory environment

A converged policy and regulatory structure coupled with strong leadership for the converging sectors within Government is vital for the UK. Inevitably it takes time to reorganise Government and regulation to take account of a more converged market. Despite considerable progress, some fundamental structural divisions still exist and fuel a silo approach to policy management that does not reflect the converging market. This is compounded by the potential for regulation to creep into previously unregulated platforms, which could stifle investment in an already uncertain market.

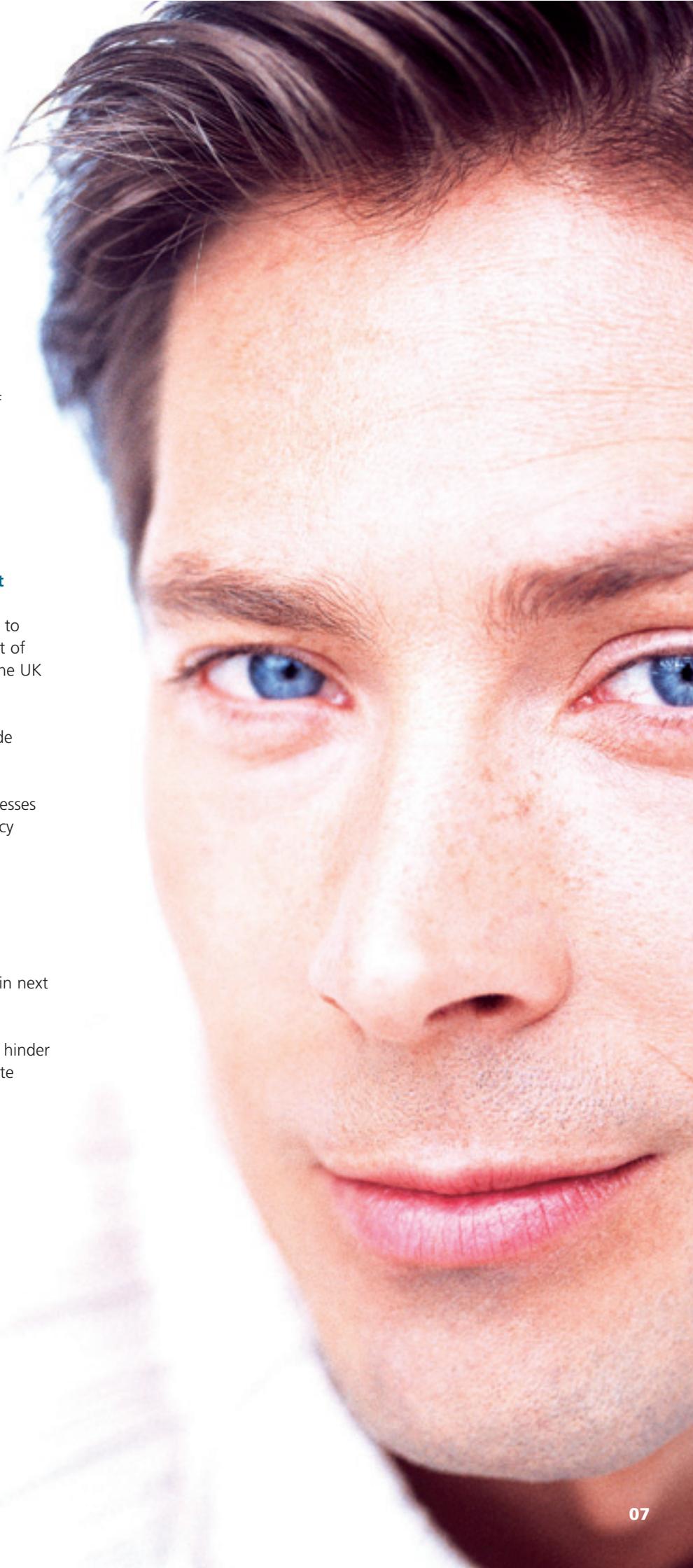
### Recommendations

The best way to predict the future is to invent it. If the UK is to be in the vanguard of digital convergence, industry, Government and regulators must continue to think and act in a more converged way. Inevitably, any transition from one paradigm to another will be inhibited by legacy structures, organisations and legislation that slow the pace of change. This is true in the case of existing industry structures and relationships; Government policy making and existing regulatory frameworks.

Fundamentally, progress can be made by recognising that convergence is a horizontal issue whereas industry, Government and regulators still tend to be structured vertically. An increase in dialogue between stakeholders to better understand how industry is reacting to this change will be key.

The recommendations are addressed to industry, Government and Ofcom and have been developed to be realistic, achievable and to compliment other related initiatives.





### Creating a more converged Industry

- Intellect to facilitate an on-going dialogue between players across the value chain
- Intellect to support targeted initiatives aimed at improving consumer awareness, media literacy and respect for the value of content and services
- Industry to simplify and converge support services for consumers

### Creating a more converged Government

- Government, in partnership with industry, to build a better understanding of the impact of convergence and why it is important for the UK
- Government to streamline departmental responsibilities for convergence and provide clear leadership
- Government to improve consultation processes to ensure converged input and better policy outcomes

### Creating more converged regulation

- Ofcom to create a climate for investment in next generation communications infrastructure
- Ofcom to ensure that regulation does not hinder innovation in the development of legitimate content, applications and services
- Ofcom to improve consultation processes to ensure converged input and better policy outcomes

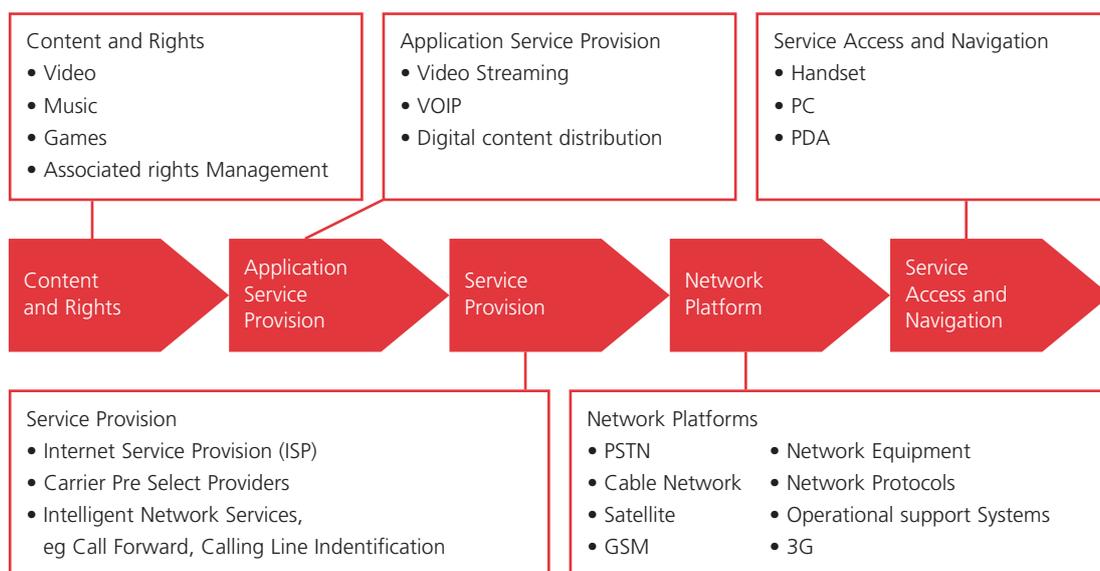
# What is convergence?

Triggered by the transition from analogue to digital communications technologies, convergence is driving rapid disruptive change across the global telecoms, IT, broadcasting, media and content sectors which together are worth several trillion dollars. Fundamentally, digital convergence offers the opportunity to do things differently and has been usefully defined as:

***“the successful application of rich multimedia products and integrated services that previously did not exist, or were provided separately, from organisations across the technology, media and telecoms sectors.”<sup>3</sup>***

Digital convergence implies a world where information and content is digitised, personalised and accessible ‘on-demand’ via multiple fixed and mobile platforms and devices. It also implies a world where the user is more engaged, actively contributing to and interacting with services rather than simply passively consuming them. This is leading to a fundamental shift in the way that consumers interact, consume, perceive value in and pay for services. It is also leading to the fragmentation of audiences and, in some cases, the divergence of products and services to meet niche market requirements.

You do not have to look far to find examples of convergence happening today. Digital television is enabling previously passive audiences to interact with linear broadcasting by pressing the ‘red button’. New on-demand services such as Sky+, Homechoice and the BBC’s online radio player are allowing people to time-shift their viewing and listening and adjust their behaviour to suit their needs. Multi-channel programming allows people to participate in broadcast events either online or via their mobile phones. Ubiquitous digital cameras allow people to capture and share their experiences, from mundane images of daily life, to major world events, such as the devastating impact of the Indian Ocean tsunami and recent terrorist attacks in London. Peer-to-peer networks are allowing people to share and distribute digital content – sometimes legitimately, sometimes at the expense of the original rights holders. New mobile TV services are being trialled that enable consumers to access TV services on the move. Meanwhile ‘podcasting’ is enabling consumers to download content onto portable devices and take it with them. Clearly, convergence has the potential to deliver an unparalleled degree of choice, flexibility and convenience to users in terms of the way they access and exploit information, communication and entertainment.



Source: Ofcom

<sup>3</sup> ‘Convergence is dead, long live convergence’, Deloitte

### The converging value chain

As the old vertical silos of the analogue world start to erode, they are being replaced by a new convergence value chain, which spans a wide variety of sectors and specialisations. The range of players involved extends from small content creators to large network operators, from creative advertising agencies to small website developers, from gaming software developers to public service broadcasters, and from TV set manufacturers to mobile phone providers. The commercial relationships between these companies are changing as new interdependencies and opportunities to compete emerge in the value chain.

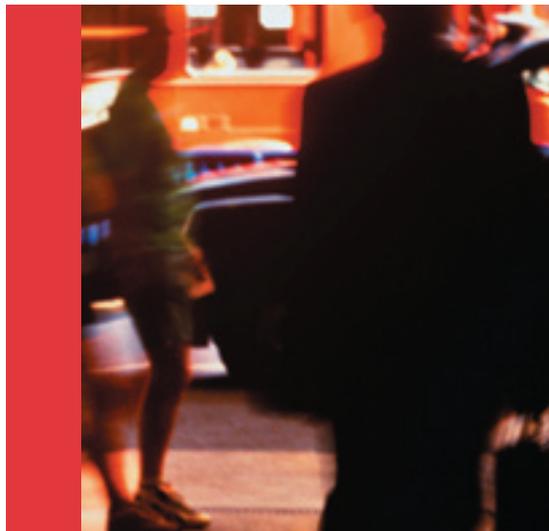
***“Players in the supply chain recognise that convergence offers a win-win for all. It is not a zero sum game. Through co-operation we can overcome impediments to investment that will otherwise limit the benefits available from convergence.”***

With more players entering the market, new channels emerging for competition and new interdependencies developing, the commercial environment is becoming more complex, dynamic and uncertain. In some cases, this uncertainty has led to inertia as companies with established businesses and vested commercial interests have struggled to develop new sources of revenue while managing the transition away from their established business models. In some cases, this has allowed smaller new entrants to move in, nevertheless, they often have the problem of finding a route to market past the established gatekeepers.

The most significant opportunities are likely to open up for the more innovative and fast moving companies, however, as was demonstrated through the years of the dot.com boom and bust, timing is everything and few companies are willing to move too far ahead of the demand curve. New businesses will need to be established on robust business models and the ability to respond quickly to decisive moves in the market, and have the confidence to take risks, is likely to be a key asset.

This changing commercial environment is, in turn, throwing up new challenges for Government and regulation. With convergence clearly critical to the future growth of the hi-tech and creative industries, policy makers and regulators have recognised the need to modernise the regulatory environment to support innovation and investment. However, to do this in practice, when the commercial environment is so uncertain, is extremely difficult. Policy makers are rightly concerned about the danger of ‘picking winners’ and are keen to maintain technology or platform neutrality. Yet at the same time, convergence is blurring the distinctions between markets and is challenging established regulatory norms such as the broadcast watershed. Is it possible to maintain distinctions in content regulation between linear and non-linear delivery models?

Convergence is also challenging the way in which policy making is organised. For example, the establishment of Ofcom as a converged regulator has yet to be mirrored by the establishment of a single Government department, responsible for the converging industries.



Convergence has the potential both to create and destroy value. Deloitte predict that, worldwide, it will lead to \$1 trillion shift in valuations and revenues in the converging sectors by 2010<sup>4</sup>. As such, it represents both a disruptive threat and a huge opportunity for companies across a wide and fast moving sector of the UK economy.

With 'end-to-end' strengths in hi-tech and the creative industries, the UK is well positioned to take advantage of the global convergence phenomenon and become a 'net producer' of convergence products, services, content and applications, rather than a 'net consumer'. However, global competition is intensifying and several countries, including Japan, South Korea, China and India are forging ahead to fulfil clearly stated objectives to become global leaders in broadband, hardware and software production.

The UK cannot afford to be complacent because there is a lot to lose. The UK hi-tech sector generates approximately 9% of GDP. In addition the UK creative industries account for about 8.4% of GDP. Although there may be some overlap in these figures, it is clear that these converging sectors are a highly important part of the UK economy. Clearly, these are the growth engines of the knowledge economy. Both sectors are highly productive and internationally competitive. According to the European Commission the hi-tech sector accounts for 40% of Europe's productivity growth and the UK hi-tech sector has a higher level of labour productivity than even the US hi-tech sector.<sup>5</sup>

With a worldwide reputation for excellence in the creative industries including film, television, music and games production and the advantages of the English language, the UK has an opportunity to become a leader in the production of content for this fast growing global market. In recent years, the creative industries have grown at twice the rate of the rest of the economy and have delivered significant net export earnings.

As the global knowledge economy takes shape, the UK can't afford to lose its leadership position. However, without a strong domestic market, it will be difficult for UK companies to compete effectively with the growing ranks of strong international competitors. Therefore it is essential that the UK keeps pace with its major rivals in the development of convergence.



***“As the global knowledge economy takes shape, the UK can't afford to lose its leadership position.”***

<sup>4</sup> Deloitte presentation to Intellect Consumer Electronics Conference – July 2005

<sup>5</sup> Ovum: 'Achieving the Lisbon Agenda: the contribution of the ICT sector', p.24

## How convergence ready is the UK?

To understand clearly the actions we need to take to accelerate growth in the converging sectors, we first need to analyse where we are today and assess the UK's current 'state of readiness' for convergence. This analysis has been conducted across all of the six key convergence enablers; consumer awareness and demand; device convergence; content innovation and investment; infrastructure innovation and investment; commercial innovation and the policy and regulatory environment.

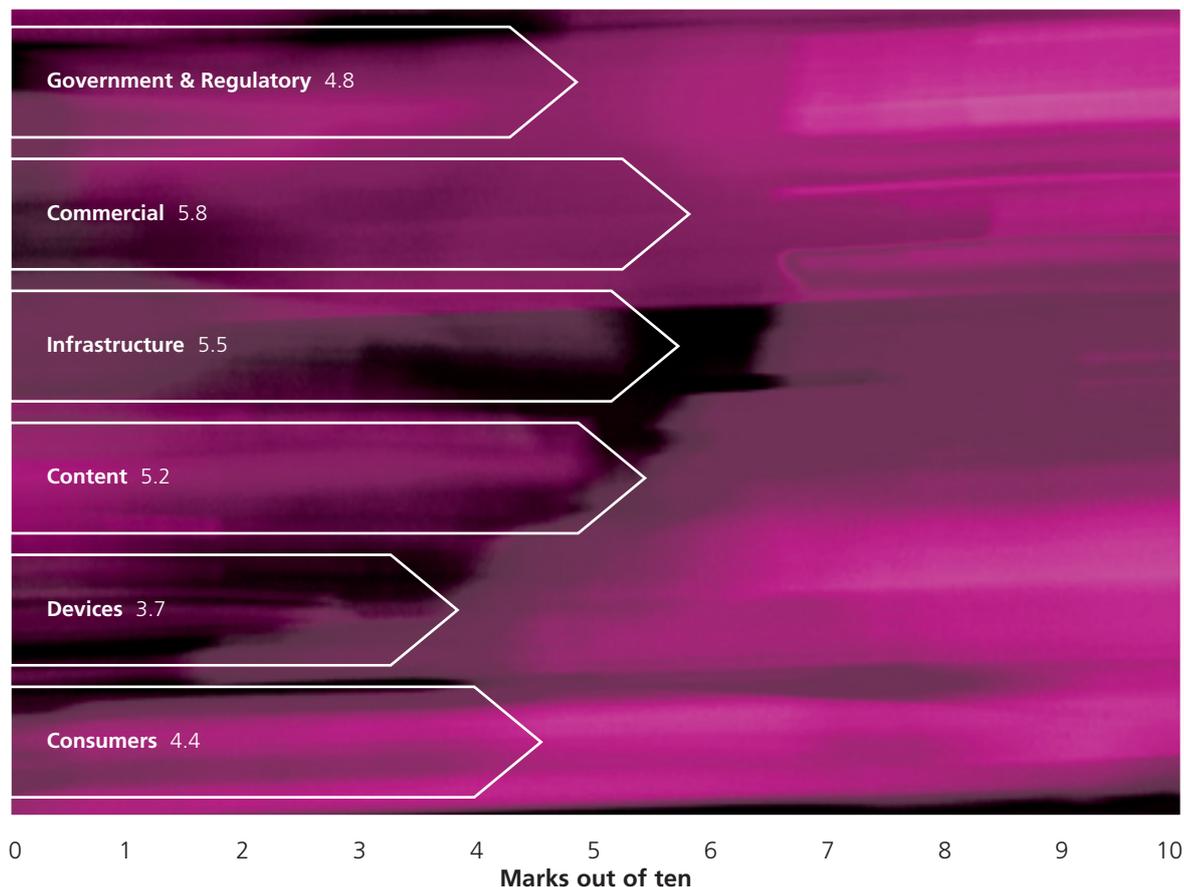
Members of the IDCC have scored the importance of these enablers, the market readiness of each and have contributed qualitative analysis and quoted comment throughout.

In terms of importance, infrastructure innovation and investment is ranked as most essential for successful convergence, followed by device convergence, content innovation and investment and consumer awareness and demand.

*"To accelerate growth in the converging sectors, we first need to analyse where we are today"*

In terms of readiness, commercial innovation is the area where it is felt most progress has been made, followed by infrastructure innovation and investment, content innovation and investment, policy and regulatory environment, consumer awareness and demand and device convergence.

### UK Convergence: Readiness Rating



***“Consumers will determine the ultimate shape of the converged world.”***

Convergence will be dictated first and foremost by consumer demand and consumers' acceptance of converged digital technologies. UK consumers have shown a readiness to rapidly adopt services once a compelling value proposition is developed. The total number of broadband connections is approaching 8m and new connections are running at 60,000 per week. Consumers are switching to digital television more rapidly than originally expected <sup>6</sup>, and 3G mobile services are now starting to take off. Perhaps the greatest progress is in the delivery of online music services offered across the UK including Apple iTunes, Napster 'To Go', WiPPET and many others. Success has been so great that a UK download chart has been established and downloads often outsell physical music singles.

***“Consumers have already demonstrated demand for the key components of convergent services, such as newly established online music services, the internet, PVRs, video on demand and mobile technologies such as 3G and portable music/game players.”***

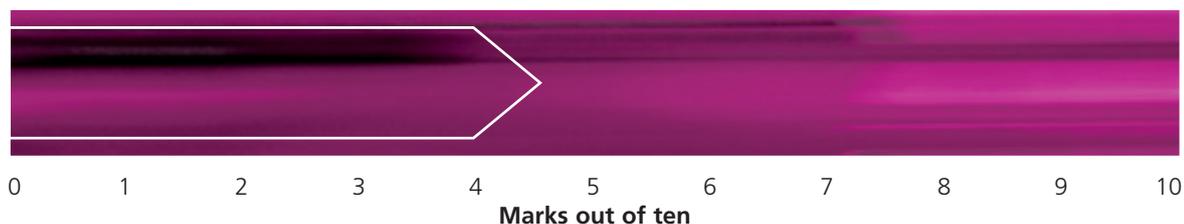
However, consumer adoption, either of the different converging platforms, or across different social and demographic groups, has not been uniform. There is currently a significant divide between the most digitally literate consumers and non-adopters. It is clear that some groups, particularly older people and some socially excluded groups have a much lower propensity to adopt than others and this has led to concerns about exacerbating social exclusion.

Key factors holding back adoption include: concerns about the technical complexity of service and devices and low levels of usability; concerns about a lack of consumer support when things go wrong; worries about safety and security online; uncertainty about the relevance or value of services and a lack of basic skills and confidence in using technology. Market driven innovation will narrow this gap by making these services more compelling and simpler to use. However, Government and industry can also play a role through targeted collaborative action to raise levels of awareness, access and digital literacy amongst the most excluded groups.

***“There is a great case for Government and all parts of industry to work together on an awareness campaign to encourage broadband take up to build awareness of all the services users could benefit from... you create demand by creating awareness, with the emphasis on positive incentives for users.”***

Meanwhile, the market must continue to meet the needs of the early adopters, influencers and innovators as it will be these segments of the market that test, adopt, adapt and promote new products and services for the benefit of the mass market.

Consumer Readiness



<sup>6</sup> Currently c.14m despite forecast in 2001 of 7m by 2005 - see speech by Stephen Carter, CEO of Ofcom at OECD Convergence Conference 2-3 June 2005

Although there is a strong willingness to adopt, it is much more difficult to predict what this will mean in terms of changing consumer behaviour and sources of potential revenue growth. Convergence will empower the end-user with even greater choice and the ability to try and test new services. It is likely that consumers will be quick to switch to rival services if they perceive that greater value is available elsewhere. In a converged market, it is unclear how consumers will perceive value and what they will be willing to pay for. Most of the industry was surprised to discover that consumers were willing to pay up to £2.50 for a mobile ring tone of their favourite hit, yet were reluctant to pay more than 79p to download the original track itself.

Many consumers were initially attracted to the internet by the availability of free content. The development of illicit file sharing services led to a situation where the widespread abuse of intellectual property rights was in danger of being regarded as acceptable consumer behaviour. This situation is now starting to change, as legitimate high quality content services have come online, and legal efforts to prevent piracy have been stepped up. However, further effort is required to re-establish a culture of respect for intellectual property rights where consumers clearly understand and respect the difference between permitted and unauthorised use.

The safety and security of the devices and services are critical to the consumer experience and consequent take-up of products and services. Consumers do not want their services interrupted by viruses, worms, hacker attacks, offensive or illegal content, spam, or the exposure of inappropriate material to their children. Tools are available to help defend against such threats, but these must generally be put in place and configured to work with the devices in use.

New converged devices and services will only be adopted if they offer benefits over existing technology and added value over traditional methods for accessing content and services. The main enablers to increased adoption are likely to be ease of use, good customer support, safety and security. If products and services are too complex or if digital/electronic delivery is too slow, they will be rejected by consumers.



***“Devices are at the forefront of the consumer experience.”***

Devices are at the forefront of the consumer experience of convergence. Improved capabilities and falling costs of component technologies, such as memory, batteries and flat screen displays, combined with improvements in the design and functionality of interfaces, has enabled the development of some very successful products that have proved highly popular with consumers.

***“As people travel in their daily lives and move from place to place and country to country, there is an increasing requirement for the content which they hold to be ‘theirs’, and therefore permanently accessible through a multitude of devices, connections and environments.”***

The industry recognises that even the best devices still often fall short of consumer expectations in terms of ease of use, interoperability, reliability, security and robustness and these are all areas where industry is actively seeking to innovate and improve.

***“Industry will ignore at its peril the main barriers: complexity, usability, reliability, security and robustness.”***

Reducing complexity to make products simple to use is a key challenge and depends on the development of better interfaces, very few consumers ever read manuals. However, real progress on the usability of devices is likely to evolve as part of a natural market driven process, as we have seen with mobile phones. In a competitive market, companies’ decisions on device design will be driven by market forces and the need to differentiate and are therefore difficult to influence.

Improved secure interoperability is also key. Not all products and services will interoperate, but those that are intended to, need to have ‘plug and play’ performance, so that the technology gets out of the way of the consumer experience. Pervasive, robust standards will allow content to flow across platforms to the desired destination and clearly enhance the consumer experience of converged technology. In many cases this requires the development of open standards and is an area where industry is cooperating with the international standards bodies and solutions are being developed at a global rather than national level.

***“A converged network delivers voice, data, video and other applications together to provide business and consumers with a range of communications options that can be personalised for ‘anywhere, anytime’ secure access using ‘any’ communications device.”***

Consumers are also looking for better reliability and performance. If devices are to become more pervasive, consumers will expect them to perform more like consumer electronic products than IT products. Consumers accept that their PC, used in a study or office, is likely to crash from time to time and that it requires a boot-time and a cooling device. However consumers will be less likely to tolerate a living room based product, offering multimedia services, crashing or requiring boot time.

Device Readiness



There is also a recognition that consumer support, both at the point of sale and after sale, lacks coordination across the value chain. If things go wrong, consumers can find it difficult to identify and access appropriate technical support and advice. Consumers currently have an array of sources to contact if they encounter problems with a technology or service and may be unclear as to whether to contact the device manufacturer, the platform operator or the content provider. No one player in the value chain owns the support relationship with the consumer and there is no coordination of information to ease consumer experience.

Devices also have a role to play in supporting the development of a culture that promotes the legitimate use of content and in helping keep users safe and secure online. The appropriate application of Digital Rights Management (DRM) technology will be critical to enabling easy legitimate access to, and use of, content.

To differing degrees, industry is resolving these issues - with, perhaps, the mobile market leading the way in delivering converged products and services. True interoperability between devices may present an even greater challenge since it requires collective action within the industry on an international scale to create the necessary standards. If industry, for competitive reasons, continues to focus on the technology features rather than on promoting the service or application benefits, wider use might be inhibited.



***“Quality content is key.”***

Consumers are increasingly interested in the ‘benefits’ provided by access to content and services rather than the ‘features’ of the technology. Access to content over different platforms is improving rapidly and market pressure is likely to continue to drive innovation in this area. A more significant issue arises from the potentially damaging precedent, set in the early years of the internet, that all content can be free. Many consumers regarded access to free content (especially music) as the ROI for their broadband connections and peer-to-peer file sharing networks were clearly a driver for many early adopters.

However, we must consider the opportunities for content creation, with the UK as a key international producer, alongside the benefits for users/consumers. It is essential that consumers understand and appreciate the value of content; this must be done by challenging perceptions that content is free. If the UK is to exploit its creative strengths, a culture must be created where content producers’ rights are understood, respected and enforced. Without such a culture, there will simply be no scope for on-going investment in the content market as players will not be able to protect their assets. The challenge is to harness consumers passion for content and develop legitimate services that meet user demand and encourage further investment.

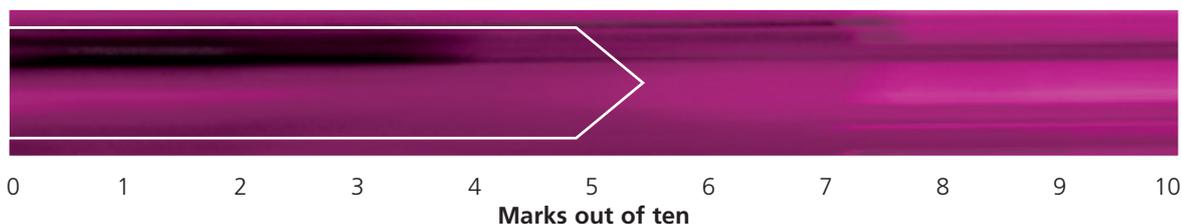
***“It is important for users to understand the value of high quality content in this changing value supply chain.”***

Content owners continue to grapple with the problem of online piracy, which gained ground in the absence of legitimate services. The film industry estimated that it lost \$3.5bn to internet piracy in 2004<sup>7</sup>, although recent reports<sup>8</sup> suggest that the situation is at last starting to improve with users showing a willingness to pay for music content, such as iTunes.

***“My online music service is fantastic. If I decide I want a piece of music, I can locate it, I can pay for it, I can acquire it and I can play it on several of my devices.”***

All content owners envisage a future in which consumers can access content wherever and whenever they choose within a marketplace that also provides for commercial competition and payment. DRM should provide a balance, allowing content to be accessed on devices the consumer wants to use, whilst preventing massive quantities of content ‘leaking’ to form an unauthorised and uncontrolled ‘free-for-all’ that would cannibalise the legitimate market.

### Content Readiness



<sup>7</sup> Source FT April 2005

<sup>8</sup> Report by Entertainment Media Research and Olswang FT June 2005

Digital Rights Management (DRM) allows models such as 'a la carte download', 'subscription', 'rental' and 'preview' and differentiates the different provisions of such alternative options. DRM provides a balance, by allowing different services at different price-points, while preventing unintended substitution among the service/price-point options. For this to work, consumer devices need to incorporate DRM support, to access the DRM content, and suitable content needs to be available.

A number of proprietary DRM options exist but are overshadowed by the lack of clarity with respect to licensing and commercial sustainability in these non-standard implementations. A concerted effort by the industry will ultimately deliver the solutions – at this stage the primary need is for better information on the current initiatives.

***“Suitable protection for intellectual property rights serves to underpin incentives to invest in the kind of content that can really drive convergence.”***

The public sector can also play a role in developing the market for content and applications by encouraging the continued digitisation of content and working with the private sector to develop new commercial applications. For example, the release of land registry data has facilitated the development of new commercial services that have helped to increase price transparency in the housing market. There are many more examples where access to digitised public sector data could stimulate the development of new innovative services with real benefits for consumers.

It is essential that content owners receive fair compensation for their products otherwise the supply of content will diminish. Moreover, the protection of intellectual property is necessary if the creative community is to be incentivised to make the required investment in broadband specific content – content that enables the consumer to fully exploit the characteristics of the platform. The availability of content over many platforms has increased demand for personalised content on demand and interactive services. This trend is driving the emergence of profitable niche market business models for industry which can be exploited if these barriers are addressed.



The importance of infrastructure as a key enabler is reflected in the European Commission's i2010 communication focusing on digital convergence:

***“Objective 1: A single European Information Space offering affordable and secure high bandwidth communications, rich and diverse content and digital services.”<sup>9</sup>***

Penetration of digital platforms has grown steadily in UK homes and there is continuing industry investment in next generation networks, and in both fixed and mobile networks. However, it has been argued that we are still not getting sufficiently ahead of the demand curve, particularly in the access part of any network – i.e. the actual physical link with an individual consumer. Any under-capacity in this area is likely to constrain the development of quality on-demand and rich media services.

For the network operators, the critical issue is whether speculative investment in next generation access networks can be justified. There is uncertainty about how operators will recoup their investments and this is limiting the pace and scale of investment which, in turn, is leading to a focus on provision in areas with higher population densities. In the same way that content owners need to be fairly compensated, so do companies that are involved in the high-risk area of wide scale infrastructure provision.

The current position is not helped by the fact that the telecommunications industry is only just emerging from the ‘bust’ phase of the dramatic over investment of the late 1990s and will, inevitably, be cautious about the scale of investments in new infrastructure, particularly in fixed networks where significant new civil works are involved. This is of particular concern to those who believe that the existing UK copper infrastructure may not meet the requirements for many converged services, particularly on a universal scale. Whilst wireless based technologies are seen as a real alternative, the availability of spectrum necessary to support the projected demand for content-rich services also remains subject to doubt.

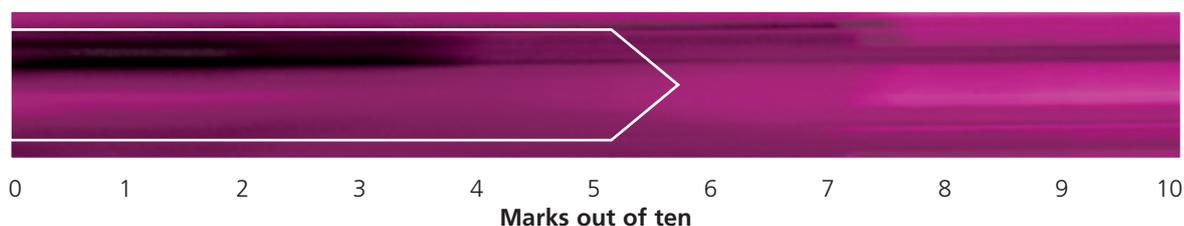
Market forces are driving limited fixed network modernisation and, although next generation mobile technologies are being rolled out, the lack of widespread availability is seen as the primary outstanding issue.

Moving to the convergence ‘fast lane’ means that we should look to get ahead of the demand curve in the roll out of next generation access networks, in both fixed and mobile technologies. Such an objective implies greater risk and therefore there is a need for ongoing review of the conditions that will ensure the necessary investment in next generation access networks.

***“There must be a rapid solution for facilitating the deployment of next generation services.”***

Options that need to be considered include a more focused spectrum allocation strategy and more sharing of primary infrastructures, such as ducts and masts.

**Infrastructure Readiness**



<sup>9</sup> i2010 - A European Information Society for growth and employment, SEC(2005) 717, COM (2005)229, 1st June 2005.

## *“A culture for convergence?”*

Convergence can lead to the transformation of existing business models across the value chain that embraces the converging sectors. As services converge, and markets become increasingly contestable, there is clearly a tension between vertically integrated and horizontal business models. New opportunities open up for competition but, in a converging market, it becomes increasingly difficult to understand who is competing in what part of the market.

## *“It’s not so much about barriers to convergence - it will continue to happen. Rather, the questions are - who will be the beneficiaries of convergence, and who will be the victims?”*

The increasing interdependence within the converging sectors is making co-operation and partnering a necessity but, in some instances, this is currently overridden by an inherent mistrust between companies.

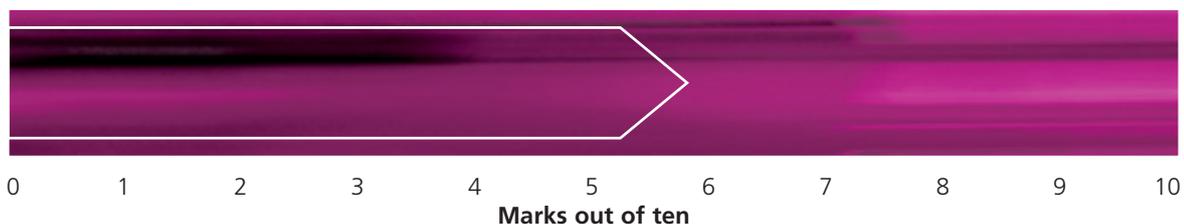
## *“The rate of progress is slow because the various industries that need to work together in a converged world have not traditionally worked and co-operated closely - e.g. telecoms, computing, entertainment, education and consumer electronics. There is learning and a trusting phase that we are going through.”*

In the light of this, companies collaborating and working in partnerships where each brings their core competencies to meet market needs will be a growing trend in the converged world, but today it is questioned whether enough UK based companies have the commercial culture and mindset to exploit convergence opportunities.

This is not to say that many existing business models within the converging sectors will not remain robust and profitable. The belief is that many companies will need to develop new models if they are to fully exploit the opportunities that convergence provides. For those who will need to change to be successful, they will need to do so in a climate of uncertainty. Decisions will need to be taken on the most appropriate business models and which part of the value chain will hold the key to profitability; i.e. what form will the next ‘killer application’ take?

If UK industry is to seize the opportunities that convergence presents, companies will need to partner and form alliances and to focus on their key competencies to ensure success. In other words, industry, as well as Government and regulators, will need to move from ‘silo’ market sector structures to more converged, horizontal organisations.

### Commercial Readiness



***“Digital convergence requires policy convergence and a willingness to adapt regulatory frameworks where needed so that they are consistent with the emerging digital economy.”<sup>10</sup>***

In one respect, the UK Government has taken positive steps towards a converged approach to policy and regulation via the Communications Act and the creation of Ofcom, as well as the recent announcement of the “Digital Britain” strategy.

The current division of policy responsibility between DTI and DCMS, perpetuates a vertical approach to policy development. This is demonstrated by the strategy for digital switchover being developed independently of the strategy for broadband and the telecommunications sector.

Although Ofcom has been established as a converged regulator, it has spent its first year carrying out separate strategic reviews into telecommunications, broadcasting and spectrum – addressing the market vertically. The challenge now is to build on the conclusions of these reviews and take a strategic approach to policy making which recognises the dependencies between these areas of policy in a converged environment.

Policies and regulation are still seen by many players to either inhibit investment or impose unnecessary costs on business and these concerns are emphasised by the fact that the convergence market is an unsettling and uncertain place to be.

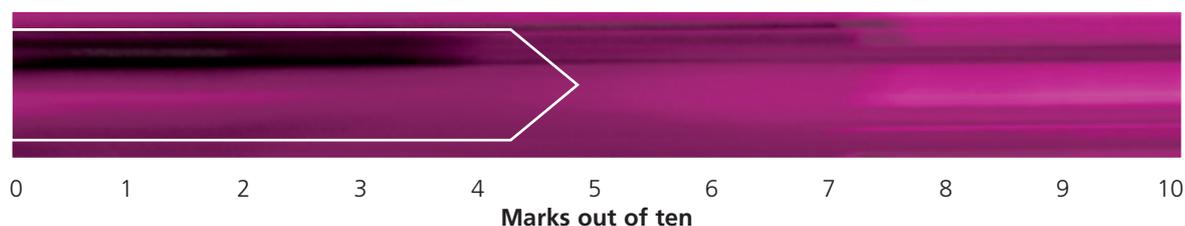
***“Burdensome regulations and barriers will limit new entrants, delay the introduction of new products and services to consumers, and stunt overall growth.”***

Players entering the market do so against a backdrop of larger players fighting hard to protect their established commercial positions in different parts of the chain, whilst looking for opportunities to leverage their positions into new areas. It is also a more intensely competitive market place with an increasing number of players interacting in a similar space and across traditional boundaries.

One particular current complication in the convergence world arises as a result of the same content being delivered via a variety of different platforms – which brings with it the question of whether the traditional content regulation applied to the broadcast sector should or could be extended to other platforms, notably the Internet.

***“The benefits of a global market place created by the internet are not always understood. Convergence will create entirely new markets and mechanisms.”***

## Government & Regulatory Readiness



<sup>10</sup> COM(2005) 229 – i2010 A European Information Society for growth and employment

However, we cannot avoid a debate around the 'appropriateness' of content and the need for consumer protection against 'the dark side of the Internet'. This perception of the internet will remain an issue and the industry has a responsibility to promote the range of tools, such as parental controls, that exist to safeguard users from exploitation. It should also look to improve self-regulatory mechanisms that address the wider value chain, which may benefit from some consolidation amongst existing self-regulatory bodies.

The primary concern of industry is that, at Government level, there is a lack of understanding of the importance of convergence within the UK economy and society – and political vision and leadership is still seen as insufficient.

In addition, further regulatory intervention or 'creep' is still considered as more likely than regulatory withdrawal, and horizontal, non-sector specific regulation adds further barriers:

***“Application of the EU Directive on financial services to mobile payment is more burdensome than specific electronic communication industry regulation.”***

Whilst it would involve difficult decisions for the Government, industry sees strong and clear policy leadership, supported by effective, appropriate regulation, as a key driver towards a better, more converged future.

In parallel, there is a tangible need for industry to engage better with policy and regulatory consultations. Convergence requires far wider, more horizontal consultations and, in this period of uncertainty and change, the involvement at the earliest stage of consultation is vital.



The main barriers to more rapid progress result from the fact that convergence is a horizontal issue whereas industry, Government and regulators tend to be structured vertically.

To ensure that the UK's progress towards a converged world keeps pace with other leading world economies, we need greater convergence of thinking and action within, and between, industry, Government and the regulators that impact convergence.

As Stephen Carter, Chief Executive of Ofcom, commented in a recent speech<sup>11</sup>:

*“If, collectively, public policy is unwilling to accept the consequences – good and bad – which flow from convergence then it is unlikely that it will produce holistic solutions which harness the good and mitigate the bad. Combine this with a degree of technophobia and slow policy-making and you have a potentially dangerous cocktail where the cheaper labour markets combine with the new infrastructure and technology markets to leave the western economies not balanced by their checks and balances but limited by them.”*

The IDCC recognises that other initiatives exist to address some of the issues raised, such as those related to the Government's Digital Strategy, the Creative Industries IP Forum and the European Commission's i2010 programme and these should get ongoing support.

The following recommendations have been developed to: 1) Improve dialogue and co-operation across the converging sectors; 2) ensure that Government takes full account of the impact of convergence in its policy making; and 3) ensure that Ofcom and other related regulators create a regulatory environment that supports the transition towards digital convergence.

## Recommendation 1.

### Creating a more converged Industry

By converged industry, we mean more co-operation between industry players in different parts of the value chain to deliver digital convergence with a focus on product reliability, device and service interoperability, user support, content and IP protection, payment systems, etc.

The IDCC recognises that many of today's barriers can, and will, be overcome by industry innovating and evolving as part of a natural, market driven process and will be driven at an international rather than national level. Specifically, major decisions on improvements in the usability and interoperability of devices will, on the whole, be taken outside the UK – e.g. by major international suppliers and international standards bodies. However, improvements in some areas can be achieved on a national scale through more dialogue, new alliances and greater co-operation.

#### **A. Intellect to facilitate an on-going dialogue between players across the value chain.**

Cross-sectoral dialogue around issues and opportunities within the value chain needs to be improved in order that communication between industry, Government and regulators covers the full implications and benefits of convergence. Greater co-operation between players within the converging sectors is a precursor to the progress of convergence.

#### **Actions:**

- The IDCC will continue to act as a 'converged forum' for dialogue around emerging issues and consultation with Government and regulators
- The IDCC will identify and develop innovative approaches to key cross-sectoral issues, particularly in areas of customer education and support

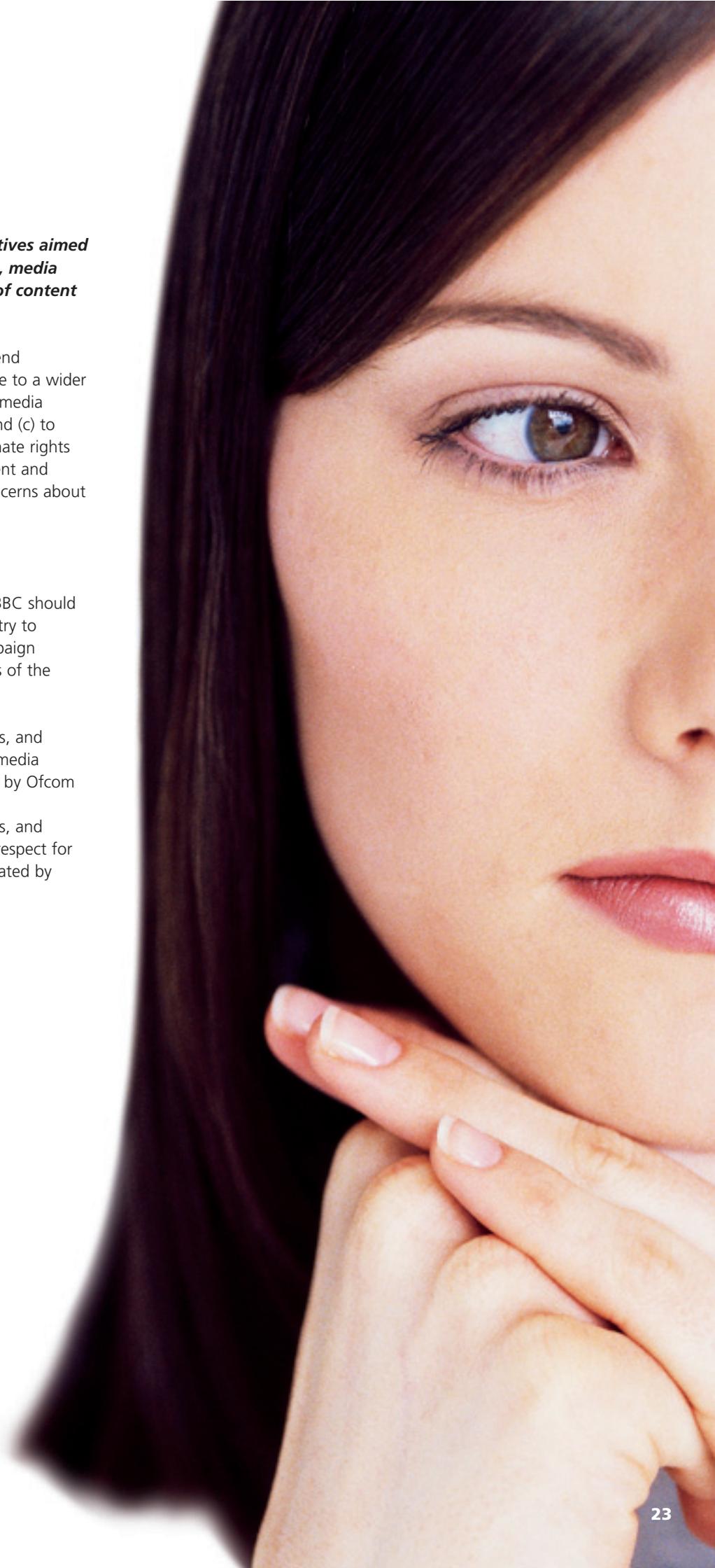
<sup>11</sup> OECD Roundtable on Convergence, June 2005

***B. Intellect to support targeted initiatives aimed at improving consumer awareness, media literacy and respect for the value of content and services.***

The IDCC recognises the need (a) to extend awareness of the benefits of convergence to a wider market, (b) to improve the basic level of media literacy skills across the UK population and (c) to create a culture of respect for the legitimate rights of both creators and consumers of content and services, including allaying consumer concerns about safety and security.

**Actions:**

- In terms of increasing awareness, the BBC should be encouraged to work with the industry to implement a major digital literacy campaign targeted at groups with low awareness of the benefits of digital convergence
- The IDCC will review new opportunities, and support current initiatives, to improve media literacy, such as that being undertaken by Ofcom
- The IDCC will review new opportunities, and support current initiatives, to improve respect for the rights of creators, such as that initiated by DCMS



### **C. Industry to simplify and converge support services for consumers.**

The IDCC has identified a particular need to improve the functionality, usability and robustness of digital devices and where appropriate the interoperability between services, but it recognises that progress in these areas will be influenced most by how major suppliers and standards bodies address such concerns.

However, it does believe that it is within the scope of UK industry to create an improved level of consumer support for converged devices.

#### **Actions:**

- Intellect will explore the creation of a voluntary consortium of major device and service providers that will encourage interlinked and mutually aligned support arrangements to simplify the customer experience of convergence.

Such a consortium could consider the following:

- an industry Code of Practice to regulate conduct across the sector and protect the interests of all players
- a programme to move IT support from a cottage industry to an effective support structure
- an accreditation standard for individuals who provide support services to consumers
- a “clearing house” facility for customers to call into for support, and that will allocate work to the nearest accredited person/company
- a simplification of the customer experience of convergence when making warranty or maintenance calls to providers of devices and services they have purchased

## **Recommendation 2.**

### **Creating a more converged Government**

To deliver converged Government, the IDCC sees a need to review departmental structures to achieve real digital policy convergence as well as clearer political leadership and recognition of the value of convergence to the UK.

The IDCC supports the conclusion of the European Commission in its i2010 Communication<sup>12</sup>, that “digital convergence requires policy convergence and a willingness to adapt regulatory frameworks where needed so that they are consistent with the emerging digital economy” and assumes that the Government will engage fully with this programme.

#### **A. Government, in partnership with industry, to build a better understanding of convergence and why it is important for the UK**

There is a need to improve understanding across Government of the impacts of convergence, in terms of both the potential social and economic benefits to the UK nationally as well as its competitive position in relation to other international markets.

#### **Actions:**

- The IDCC to provide a forum for raising awareness across Government
- Relevant Government departments to engage with the IDCC
- Government, in partnership with industry, to map the converging sectors
- Government, in partnership with industry, to develop metrics to monitor growth of the UK’s converging sectors and their interdependencies

<sup>12</sup> COM(2005) 229 – i2010 A European Information Society for growth and employment



***B. Government to streamline departmental responsibilities for convergence and provide clear leadership***

There is a need for an informed Government voice on convergence issues at a senior level. Convergence should be at the centre of policy development and to do this effectively Government will need to change the current vertical silo approach to policy development.

**Actions:**

- Government to assign clearer responsibility and leadership for convergence issues
- Government to consider how to encourage convergence across the broadcasting/creative industries and telecoms/consumer electronics divisions of DCMS and DTI

***C. Improve consultation processes to ensure converged input and better policy outcomes***

There is room for improvement in the current approach to consultation with the converging sectors at the policy proposal stage, such that the impacts of legislative proposals are considered more horizontally. This requires a better reach across the converging sectors when consultations are published.

**Actions:**

- Government to undertake a “concept viability<sup>13</sup>” style process to policy development that will also help to inform subsequent regulatory impact assessments as to the affect on the converging sectors
- Government to work with the IDCC and use converging sectors map, as recommended under point 1, to ensure appropriate industry reach

<sup>13</sup> Concept Viability is service offered by Intellect to the public sector. It enables public sector organisations to use industry as a ‘sounding board’ at the earliest possible stage of project development, helping them to effectively assess the potential technological risks associated with specific public sector IT projects, before progressing from concept to delivery.

### Recommendation 3.

#### Creating more converged regulation

Regulators must continue to ensure that regulation - both sector-specific and non-sector specific - supports the transition towards digital convergence.

The creation of Ofcom as a converged regulator was an important step forward. The IDCC welcomes its work to introduce a more comprehensive analysis of regulatory proposals and also its intent to progressively withdraw from intrusive regulation.

#### **A. Ofcom to create a climate for investment in next generation communications infrastructure**

Because of the need for substantial investment in next generation infrastructure, both fixed and wireless, to meet demands for bandwidth hungry services, the creation of a climate for investment in new infrastructure, particularly in access, should be a core policy objective.

#### Actions:

- The IDCC to work with Government and Ofcom to review options for increasing investment and innovation in next generation access networks, including the extent to which sharing of some infrastructure components, such as ducts and masts, could increase availability
- Ofcom to review potential implications of current spectrum policy with a view to assessing whether certain spectrum should be allocated strategically rather than left to market forces

#### **B. Ensure that regulation does not hinder innovation in the development of legitimate content and services.**

Regulation, both specific to the sector and non-sector specific, should, as far as possible, be supportive of digital convergence, particularly in relation to the development of legitimate content and services. Currently, legacy regulatory provisions from different areas often conflict and this needs to be addressed.

#### Actions:

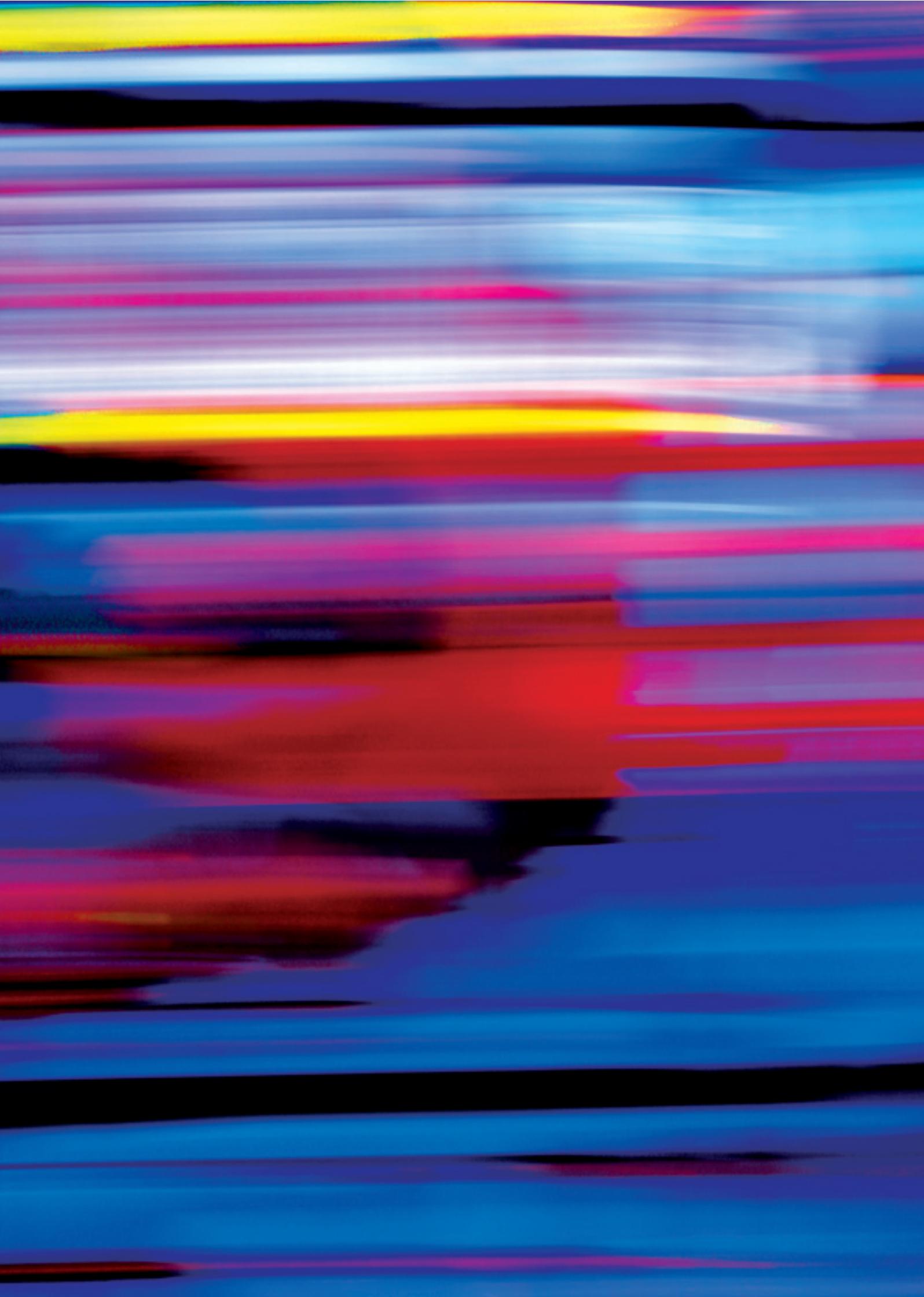
- The IDCC to work with Government to identify potential regulatory conflicts
- Ofcom to promote forbearance and support self-regulation within the content regulatory framework, where the market can achieve the policy goal
- Ofcom, and other regulators, to consider new regulation only on the basis of rigorous impact assessment
- Intellect and Ofcom to establish how to approach emerging areas and establish effective models for self-regulation within industry

#### **C. Improve consultation processes to ensure converged input and better policy outcomes**

The IDCC believes that the current consultation approach is still too narrow and tends to result in telecoms and broadcasting issues being determined without full assessment of the impact of proposals across the value chain. This is a difficult issue to address but requires industry to ensure that it engages effectively in the consultation process; Government to ensure it is consulting widely enough with stakeholders from across the whole value chain; and regulators to understand the wide range of impacts that interventions may have across that chain.

#### Actions:

- The IDCC to review ways in which industry can present more co-ordinated messages
- Both Government and Ofcom to review consultation processes with the objective of achieving a better reach between sectors and more proactive engagement of all potentially impacted stakeholders
- Ofcom to undertake more rigorous horizontal impact assessments
- Intellect to maximise the opportunity provided by the Intellect/Ofcom forum to analyse and discuss convergence issues more comprehensively and to aggregate the views of the converging sectors



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