European Chamber of Commerce in Hong Kong
Position Paper

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Information and Communication Technology (ICT) Business Council

October 4, 2010

This Position Paper (PP) summarizes some of the key issues identified by the EU-HK-MC ICT Council Meeting. It will also outline recommendations on potential solutions to the issues outlined with the proactive combined contribution from the Members of the EU and from the Information and Communication Technology (ICT) Industry.

Contents:

Introduction

The Information and Communication Technology (ICT) sector is proving to be a promising area for further development and implementation. It has a crucial role to play in supporting sustainable development in any economy, and, given the growing education, knowledge, and literacy amongst users in the development countries, ICT has the opportunity to be a key means for solving global challenges in our day, such as poverty, climate change, improving health, education and income generation possibilities.

The relationship between Europe and Hong Kong offers vast potential for further cooperation and understanding in this field.

The European Union-Hong Kong-Macao Information Communication and Technology Business Council (hereafter EU-HK-MC ICT Council), would like to raise awareness in relation to the following three [3] key areas its members have identified and would urge the regulatory authorities to adopt the Council's recommendations provided herein.

Converging Media Regulation The growth of demand for media services in Hong Kong is high. The converging trend of how media services are delivered via both traditional broadcasting and new age telecommunications technologies is evident. Currently, in the telecommunications sector, there is a light-handed, and pro-competition regulatory approach. The same status is required in the broadcasting sector but it has yet been achieved.

What Hong Kong needs now is a *coherent regulatory approach and an effective means to enforce*; that is, a system of regulatory procedures that enables and ensures fair competition. The nature of this business, largely service-based, is presented with many opportunities from a young, technologically-savvy population in Hong Kong. The evolution of such an environment must be supported by a leading edge, reputable regulatory framework.

The Competition Bill and the Transition to a Competition Ordinance By seeking to replace the current sector specific competition regime with one single set of conduct rules, and by applying these same rules to all sectors of the economy, the Competition Ordinance should subject substantially all ICT services to identical regulation from a competition law perspective. This represents in our view a significant and welcome movement toward a technologically neutral, services-driven approach to ICT regulation.

Nonetheless there are aspects of the Competition Bill which give some cause for concern including the extensive exemptions and exclusions provisions, the practicalities of an effective sharing of jurisdiction between regulators, uncertainty over the scope of the second conduct rule and the potentiality for regulatory vacuum during the transition period before full implementation of the provisions of the new law.

Spectrum When terrestrial broadcasting networks are switched from analogue to digital, a spectrum is released, and this can play an important role in the future of mobile broadband networks and IMT systems in particular. Achieving and making available the switch and the reserved bands in the 2.5GHz range to services will help foster competition between multiple platforms in delivering advanced multimedia services to the public. There is a wealth of untapped potential in extending the coverage of mobile broadband services under a spectrum of 1 Ghz, for instance to rural areas and the future deployment of 3G/IMT systems for use by IMT in the ITU Radio Regulations.

Also, the areas where ICT is applied and employed, as listed above, can be the cause for further and more profound development and negotiation in other fields which will bring improved social conditions and awareness. This PP will elaborate on the current issues with respect to **Converging Media Regulation**, **The Competition Bill** and **Spectrum Management**, and illustrate the opportunities for change.

The final aim of this Position Paper is to formulate the framework a centralized and fundamental regulatory system that will manage and monitor IPTV services and provide guaranteed and continuous service to customers. The framework that exists now is a highly closed system and it is the objective of this exercise is to make the IPTV service and more open to users and new market entrants. The current structure is not reliable as now that TV is also being delivered over the communications networks and telephony over cable TV networks, the regulatory system has become unclear. There is no defined regulatory manager to monitor the traffic in these IPTV communications networks.

Members

- Alcatel-Lucent
- British Telecom
- EADS Defence & Security
- Ericsson
- Fargo Telecom Asia
- Nokia
- Nokia Siemens
- Sequans
- Telefonica

The Hong Kong ICT Market Overview

Since 2003, the Hong Kong ICT industry has been a fully liberalized market. The key characteristics of regulation have been a light-handed, pro-competition, and pro-consumer approach. All sectors of Hong Kong's telecommunications market have been relaxed with no foreign ownership restrictions. Both spectrum and IP-convergence have undergone immense policy change as new technologies and convergence create new opportunities and challenges. This means that the changing market environment requires adequate reforms in the regulatory framework.

The Hong Kong government is heading towards introducing a single regulator of the telecommunications and broadcasting sectors and has just introduced the draft legislation to the Legislative Council in June 2010. At present the regulatory structure is bicameral, consisting of the Telecommunications Authority (OFTA) and the Broadcasting Authority (BA) responsible for telecom and broadcasting regulation respectively.

The merged regulator, which will be called the Communications Authority (CA), will take up the powers of both OFTA and BA. Following the establishment of the CA, the government will then proceed to merge the existing regulations under the Telecommunications Ordinance (TO) and Broadcasting Ordinance (BO) into a single legislation under the proposed Communications Ordinance. This action was done in line with the global trend as both the UK (2002) and Australia (2005) also merged their telecommunications and broadcasting regulators. The CA will administer and enforce the existing BO and TO until the unified regulation comes into play.

The liberalization of the ICT market was fully realised with the opening up of the fixed telecommunications network services market on 1 January 2003. The interest in the development of the telecommunications market is very much a government initiative, with total investment in the telecommunications sector exceeding HK$24.5 billion between 2000 and 2002. Since 1998, the Hong Kong SAR Government has issued a blueprint[1] for digital and ICT development under the *Digital 21 Strategy*. This has been updated in 2001, 2004,[2] and 2007 in order to keep ahead of the rapid pace of progress in this industry. The mantra of this project is pro-competition, openness, high penetration, and facilitation. The result has been a low cost, high level service for businesses and households.

Figures:

[1] *Digital 21,* Hong Kong Special Administrative Region, Information Technology and Broadcasting Bureau Information Technology Strategy, November 1998.
Link: http://www.info.gov.hk/digital21/eng/related_documents/download/e-digital21.pdf

[2] *Digital 21 Strategy*. Hong Kong Special Administrative Region, Industry and Technology Department, March 2004
Link: http://www.info.gov.hk/digital21/eng/related_documents/download/2004DG21StrategyEng_Full.pdf

Gross output of the telecommunications sector in 2008 (8.76% over 2007)	$57.1 billion
Number of companies licensed to provide Local Fixed Carrier Services, as of March 2010	14
Mobile Penetration, by population	179.3%
Percentage of Broadband penetration, by household	82.1%
Number of exchange lines as of January 2010	4.1 million
Number of registered 2.5G/3G customers	5.5 million
Hong Kong's ranking in world in Household Penetration of FTTB and FTTH, according to the Fibre to Home Council	3rd and
Household Penetration of FTTB and FTTH	33%
Data Usage	147 Terabytes (or 4 times the mobile usage in 2008)
Percentage of DTT coverage extension to HK population	85%
Number of additional local certification bodies to perform testing and certification as added by Telecommunications Authority	4
Year of introduction of Unified Licensing Carrier to facilitate cross-market incentive	2008

Source: 1) Office of the Telecommunications Authority (OFTA), "Hong Kong: The Facts – Telecommunications".
Link: http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf;
2) Office of the Telecommunications Authority (OFTA) "Broadband for all in Hong Kong" by HA Yung-kuen, presented in Stockholm, Sweden, on June 28, 2010.

At Issue: Liberalization and Effective Regulation

A commitment to greater sustainability and transparency is high on the government's priority list. In the infancy of the ICT development in Hong Kong, there was a critical need for opening up the telecommunications industry. The subsequent development and merge of the CA is the evidence of this recognition for establishing an infrastructural basis for the long-term sustainability of the ICT sector. Additionally, in order for this sustainability to persist, it requires a high degree of transparency and trust between service providers and consumers. Hong Kong exhibits "technological neutral" regulation, in that it allows adoption of technology to be determined by the market. This dictates that regulators should not back any particular technology. In essence, this open policy in regulation creates an open field in which incumbent operators and new entrants can perform.

However, since the early advancement of the ICT industry, this relaxed approach still persists. The nature of current ICT technologies creates challenges for technologically neutral regulators in judging and setting the appropriate level of openness in the ICT sector. This level of openness is crucial for solution and service providers alike to achieve innovative and efficient use of their respective investments without undermining operational integrity.

The questions remain:

1) Can Hong Kong's ICT institutions and regulators keep up with, and more importantly, keep ahead of, the technologically-driven developments in the ICT sector?
2) Is the openness of Hong Kong's ICT sector causing unmitigated and unforeseen consequences, resulting in a winner-take-all dynamic inadvertently allowing a dominant player to capture the majority of the market?
3) In the case of Hong Kong's recent lifting of the prior-approval requirement (from *ex ante* to *ex post*), how should *ex ante* and *ex post* be balanced so that new entrants can operate in a fair competition environment?
4) Hong Kong's deliberate relaxation in the regulation of the ICT sector is a double-edged sword: how does the regulator ensure free and fair competition while upholding its technological neutrality?
5) International compatibility of standards may also pose a problem when too much light-handedness neglects piracy and privacy issues. How can ICT regulation should ensure free movement and transaction over the internet, while at the same time address issues such as cybercrime and piracy, spam and privacy issues?
6) The mobile industry was relatively late in its reaction to the opportunity of digital switch-over to identify additional mobile spectrum in the UHF band.

The regulator should be the concerted and coordinated effort of all ICT-parties concerned. An industry dominated by a few large enterprises is not representative of "fair competition". In addition, corporations may not share the same priorities as the regulator does to oversee the threat of cybercrime, spam, and privacy issues.

The goal for Hong Kong is to become the leader, and not follower, in the ICT sector, as put by former Hong Kong Chief Executive Tung Chee Wah. Government regulators have the ultimate responsibilities in ensuring the creation and sustainability of a business environment where this objective can be achieved.

The Regulatory Implications of Converging Media

Convergence: A New Business Paradigm

As technological barriers are fast disappearing, various multimedia services are being converged into ways where they can be accessed from different types of broadband connected devices, whether it is a PC, laptop computer, TV, or smart phone.

Young people today are more adept in the world of information and communications technology.[3] Multimedia and gaming applications have become essential to their personal expression and relationships. They no longer simply want to be connected, or merely want the ability to watch content on different devices. Instead, they go after rich, interactive multimedia experiences that can be enjoyed according to their needs, and on whatever device they are using, anytime, anywhere. They watch TV and video content without being tied to a fixed program schedule or a home TV. There is also a growing trend in the adoption of converged PC and TV content interactivity, as well as the reliance on mobile handheld units as an 'always on' social networking tool and an entertainment device.[4]

As the percentage of a younger and thereby more technologically savvy population in Hong Kong grows, the desire of these experiences is creating new and exciting opportunities for communications service providers.[5] 'Triple-play' and 'quadruple-play' strategies are well adopted in Hong Kong. What they now need are unique abilities to deliver personalized content and quality online experiences to end-users. To achieve that, services must span across multiple traditional technology 'silos'. These 'silos' must now be tightly integrated from a service delivery and service assurance perspectives.

Convergence: The Need for Swift Regulatory Transformation

This new business paradigm is transforming the Media and ICT sectors by blurring historical market boundaries, changing the composition and range of market offerings, and impacting the robustness of previously successful business strategies.

Current regulatory frameworks are vertical sector-specific. For exa,ple, BA and OFTA are responsible for regulating two industry sectors that were traditionally distinct, from both service and technology perspectives. The nature of convergence from a service perspective, is horizontal and it cuts across vertical regulatory frameworks which are neither constructed for nor capable of

[3] Sandra Sieber & Josep Valor Sabatier. "Uses and Attitudes of Young People towards Technology and Mobile Telephony". 16th Bled eCommerce Conference. (Bled, Slovenia. June 9-11, 2003) http://www.bledconference.org/proceedings.nsf/0/aa57b8749d91ff26c1256ea2002e6fe0/$FILE/55Sieber.pdf

[4] "The Converged Media Road to Success", by Srinivas Kandikonda, March 7, 2010. *Tech News World*. Link: http://www.technewsworld.com/rsstory/70332.html?wlc=1282120400

[5] "Hong Kong Consumers Undergoing Major Lifestyle and Attitude Changes Shaped by the Rapid Development of Technology", The Nielsen Company, 28 June 2007, Hong Kong Link: http://hk.nielsen.com/news/20070628.shtml

dealing with the new paradigm effectively. These new business realities call for swift transformation of the existing regulatory and legislative environment.

Specifically for the Hong Kong market, the fragmented, vertical sector-specific regulation and analogue legistlation is no longer adequate due to:

• ***Distortion of competition*** *– near perfect substitute platform such as fixed and moblie telecom access and TV cable for the delivery of the same or similar services should be treated within the same regulatory framework. Service at hand should be the focus of regulation, and not the platform that provides the service, application or content.*

• ***Regulatory flight*** *– when companies evolved or were taken over by those outside the regulatory jurisdiction, some could have acquired the ability to select platforms with the objective of maximizing returns while operating 'unregulated'.*

• ***Weakening of regulatory effectiveness*** *when alternative providers are successful in 'escaping' regulation due to the choice of platforms, the lowest denominator prevails and becomes the norm in the long run.*

• ***Convergence is creating competition among regulators resulting in overlapping remits.*** *A broad and holistic perspective of converging value chains is necessary. Likewise, policy makers need to reconsider their objectives, responsibility, governance and forms of intervention for the broader scope of challenges.*

In responding to these convergence trends, it is recognized that regulatory transformations are taking place at multiple levels in Hong Kong, targeting both fixed-mobile convergence and telecom-broadcasting convergence. The Unified Carrier Licence (UCL) is one such development, providing cross-market incentives to ICT businesses. The establishment of a unified regulator – Communications Authority – as a merger of the regulation of telecom and broadcasting, is another example.

Whilst the EU-HK-MC ICT Council welcomes the systematic approach Hong Kong authorities have adopted on transformation, the gap between converging technology trends and the current regulatory framework is widening. This widening gap, if not addressed swiftly, could lead to an array of issues affecting consumers, service providers, solution vendors, and the regulator itself[6].

For consumers, cross-platform information integrity, customer profiling and privacy issues would be among the top concerns in a rapidly changing environment. This would become apparent if, for example, advertizing on IPTV was not regulated as a "service" parameter across all screens (i.e. across all types of access technologies).

[6] "Is there a need for converged TV regulation?", Ernst & Young, 2008. Link: http://www.ericsson.com/au/ericsson/televisionary_campaign/docs/e_y_white_paper_final_3_july_2008.pdf

From a service provider perspective, they need to invest in and monetize these unique abilities to deliver personalization. The confidence to operate in a highly competitive market place regulated by consistent, up-to-date service driven policies is the key in promoting favourable investment decisions. Established telecom solution vendors have achieved tremendous successes in various markets globally. In collaboration with telecom operators and other partners under fair regulations, their visions, experiences and expertise in the converged multimedia environment would help Hong Kong stay ahead of the curve.

Reality Check: Current Regulations of Internet Protocol Television Services

Today, the IPTV sector in Hong Kong is largely regarded as a 'black hole' on the regulatory scene. There exist many unknowns on legal and regulatory issues such as privacy, open access, market access, to name a few. Consumer rights, from these perspectives, are at risk.

As an example, traditional wireless and wireline broadcasters in Hong Kong are regulated under the Broadcasting Ordinance (BO) and are subject to the licence requirement of the Ordinance. However, broadcasting services delivered over the internet, including IPTV, are exempted from the requirement of licensing. There is no clarity as to whether this exemption applies to all IPTV service providers. As a result, both IPTV service providers licensed under the BO and unlicensed co-exist in the market. Worse still is that the broadcast services provider is subject to the strict regulatory requirement under the BO and the associated guidelines, including, but not limited to, advertising and content, while other unregulated internet services have absolutely no constraints.

This anomaly is not unique to Hong Kong, as discrepancies in regulation of TV-type services exist all around the world.

- Broadcast TV in the US, for example, is required to offer a minimum number of hours of quality and educational TV contents for children, Broadcasters must police their content for sex and violent scenes that would be deemed unacceptable. The industry is also subjected to ownership restrictions and compulsory content licensing requirements. In most European countries, on the other hand, TV broadcasters are constrained in terms of the amount and nature of program content and advertising they can carry – tobacco related advertising is banned; political coverage must be balanced; contents for children and racial minorities need to be respectfully protected, to name a few. None of the above restrictions have applied to IPTV in the past.

- In the UK, TV viewers are required to pay for viewing license to receive traditional TV broadcast signals. This does not apply when watching mobile TV.

- In India, IPTV is considered within the scope of a telecom operation rather than a TV operation and hence it is eligible for receiving up to 74% of foreign direct investment. In contrast, traditional Indian broadcasting networks can receive only up to 49% of foreign investments (or 26% if the broadcaster is a news network). In another example, Internet-based TV sites may offer adult channels which are strictly prohibited on regular TV.

Not surprisingly, these discrepancies have raised questions of principle, public interests, and self-interests. Traditional media are threatened by their unregulated counterparts and ask for a 'level playing field'. They argue that public policies enacted for good measures are being undermined.

In a global survey[7] conducted by Ernst & Young in 2008, regulatory situations in 24 countries spanning Americas, Europe and Asia Pacific were studied. While regulators in most countries surveyed were just beginning to address some of the issues raised, Japan, Canada and countries in Latin America had already taken steps towards creating a levelled playing field.

Recommendations

An appropriate regulatory response to convergence is to adopt a holistic approach whereby all necessary value chains activities, as well as their key dependencies or linkages that contribute to the totality of a converged service or content offering are taken into consideration.
This approach would require policy makers to harmonize their objectives and remedies. For example, common policy denominators need to be defined across value chain activities to minimize the risks of competition distortion and create a levelled playing field. The outcome of this transformative policy revision will represent a paradigm shift towards a converged policy environment.

Studies have shown a correlation between a fragmented market and low ICT investment.[8] There must be consistency in regulation, standards, and enforcement of good practice to achieve this end. A more aggregated market will offer more regulatory control over the ICT sector.

Recommendation (1):
1.1 Our proposal is to create an *effective, impartial, and independent bureaucracy of regulation* to implement a *consistent* regulation scheme for promoting an open, stable and most importantly, more predictable business environment in Hong Kong for growth.

[7] "Is there a need for converged TV regulation?", Ernst & Young, 2008. Link: http://www.ericsson.com/au/ericsson/televisionary_campaign/docs/e_y_white_paper_final_3_july_2008.pdf
[8] "The Economic Impact of a European Digital Single Market", European Policy Centre, Informed Decisions, *Copenhagen Economics*. March 2010. Website: http://www.epc.eu/dsm/2/Study_by_Copenhagen.pdf

1.2 To ensure success, a supervisory body is recommended within the improved regulation scheme to monitor achievements and implement corrective measures when necessary. These steps will help close the gap between converging market reality and the current regulatory environment, thereby upholding market integrity.

It is evident that an urgent need to accelerate the reform towards a more 'service based' framework is warranted. Although the pressing demand for results should not jeopardize the comprehensive effort and systematic conscientiousness of the project, an accelerated timetable to introduce this framework is recommended. Maintaining consistency in a rapidly changing environment and avoiding regulation that favours specific technologies or services are indispensible for a healthy and blooming telecom ecosystem. Moving from regulating technology to services is seen as a way of creating an environment where this can be achieved.

Recommendation (2):
The EU-HK-MC ICT Council recommends a new *regulation scheme be implemented based on "services" rather than "technologies"*. Under this new framework, attributes of any new-age services in terms of their respective features and constraints can be regulated horizontally across technology silos. This approach will provide a consistent environment where usage and medium of delivery, for example, can be more easily monitored, and policies be more effectively enforced. This regulatory shift will encourage providers to focus on the quality of services offered while enabling new service delivery alternatives to consumers. It will force previously *inconsistently regulated* services such as broadcast TV and IPTV to fall under an umbrella of an enhanced regulatory environment, thereby promoting better quality and safer choices for consumers, healthier market competitions, and ultimately better performance in the ICT sector.

The Competition Bill and the Transition to a Competition Ordinance

In July of this year, the Hong Kong Government published the Competition Bill and the Bill is now subject to consideration within the Legislative Counsel. The EU-HK-MC ICT Business Council applauds this development as such a law should, if properly implemented, make an important contribution to leveling the playing field for operators on ICT markets in Hong Kong.

From a competition law perspective, currently the ICT sector in Hong Kong is divided into three camps. Certain operators come within scope of the competition provisions of the TO; others fall within the competition provisions of the BO. A third group falls outside Hong Kong's sectoral competition rules entirely - we have discussed above the example of IPTV. Technological convergence however pits operators from these three camps against one another on the market in what is, at the present time, an unequal struggle from the regulatory point of view.

By replacing the competition provisions in the BO and the TO with one single set of conduct rules, and by applying these same rules to sectors of the economy currently beyond the reach of Hong Kong's existing competition provisions, the future Competition Ordinance should subject substantially all ICT services to identical regulation in the competition realm. In short, we recognize in the Competition Bill a significant movement toward a *technologically neutral*, services-driven approach to ICT regulation and a tool which, if effectively deployed, will ensure that Hong Kong's ICT markets remain open and competitive in the future.

Still, aspects of the Bill give rise to certain concerns:

- The merger provisions of the Bill might be viewed as perpetuating the existing fragmented approach to ICT regulation in as much as the relevant provisions apply only where one of the parties to the merger is a carrier licensee under the TO or is affiliated with a carrier licensee as stipulated in section 4 of Schedule 7 to the Bill. We appreciate that the Competition Bill is unlikely to be revised at this point so as to include a more generalized merger rule, but in principle the accumulation of market power through structural change should be regulated consistently across all ICT sectors.

- While seeking to introduce a generalized regime applicable to all classes of economic activity, the Bill also clearly envisages the possibility of some important exclusions or exemptions. In that respect, we note the exemption for Government and statutory bodies, the exclusion for undefined "services of general economic interest", and the provision for excluding, by way of regulation, "specified persons and persons engaged in specified activities" (we refer to section 4 of the Competition Bill). Naturally, we recognize that exclusions are part and parcel of competition laws internationally - where for example they

can be justified on economic efficiency grounds. The apprehension we have is that while apparently ushering in a new and welcome cross-sector regulatory regime applicable to all ICT activities, the Bill might be implemented in such a fashion as to effectively perpetuate something akin to the existing regulatory patchwork.

- The Competition Bill provides that OFTA may perform the functions of the CC in so far as they relate to the conduct of undertakings that are (a) licensees under the TO (other than licensees under Part IIIA of the TO); (b) persons who, although not such licensees, are persons whose activities require them to be licensed under the TO (other than persons required to be licensed under Part IIIA of the TO); or (c) persons exempted under section 39 of the TO. Similarly, the Bill provides that the BA may perform the functions of the CC (other than merger functions) in so far as they relate to the conduct of undertakings that are (a) licensees under the BO; (b) persons who, although not such licensees, are persons whose activities require them to be licensed under the BO; or (c) licensees under the TO for whom functions are conferred on the BA under Part IIIA of the TO. In general terms this concurrency of jurisdiction is to be welcomed as it ensures the sectoral expertise of the BA and OFTA will be put at the disposal of the new regime. Nonetheless, we would make the following points:

    - Until such time as the BA and OFTA are merged in the CA, certain ICT activities will be regulated concurrently by OFTA and the CC, while others will be regulated concurrently by the BA and the CC for competition matters. A third category of ICT activity - currently not regulated under either the BO or the TO - will fall within the exclusive competence of the CC. This fragmentation of regulatory responsibility has within it the potentiality for a confused and unequal application of the rules in our view. The merging of the BA and OFTA in the CA will rectify matters to an extent but this still leaves certain ICT activity regulated exclusively by the CC potentially without any input from an ICT regulator. We would advise that it is crucial that these various regulators establish early on a working understanding on the exercise of their shared powers by concluding a memorandum of understanding as provided for in section 161 of the Competition Bill. Additionally, consideration could be given to introducing subordinate legislation to clarify the relationship between the three authorities. Such subordinate legislation and/or memorandum of understanding could make provision in particular for:

        - A mechanism that would ensure there was no *competition for jurisdiction* between authorities. In particular, before an authority could act on a complaint or matter, it should be obliged to agree with any other competition authority likely to have concurrent jurisdiction which authority should investigate the complaint or proceed with the matter.

- With a view to facilitating an agreement of the kind described, rules or guidelines for determining which authority is best placed to act in a given case. In general it would be our view that there should be a presumption in favour of action by the sectoral regulator whenever the regulator was competent. In particular, given that the merger rule as currently drafted is confined to the telecommunications sector, there should be a presumption that OFTA will be best placed to enforce the merger rule. For borderline cases, where the jurisdictional question is less clear cut, a list of factors could be provided which would be used to identify the competition authority best placed to act.

- A mechanism for resolving disputes between authorities on which authority was best placed to act in a given case.

- The possibility of seconding staff between authorities to ensure the requisite knowledge and expertise is made available to the investigating authority.

There is of course ample literature on the question of coordination between competition authorities and sectoral regulators but some particularly useful precedents in the present context might be sought from the UK where the Office of Fair Trading and Ofcom - the independent regulator for UK communications industries - share competition competence in a manner analogous to that envisaged by the Competition Bill.[9]

- Where the matter under investigation concerns an ICT sector falling within the exclusive competence of the CC or where it would seem the CC is the only regulator with competence in relation to all parties to the conduct under investigation and for that reason is the authority pursuing the matter at issue, there should be nonetheless an effective collaboration with the ICT regulator so as to ensure an informed application of the competition rules and one which takes account, as appropriate, of the ICT regulatory landscape. In this context, we would note that sections 158 and 159 of the Competition Bill provide that OFTA and the BA have

[9] We would refer to for example the following: The Competition Act 1998 (Concurrency) Regulations 2004 (link: http://www.legislation.gov.uk/uksi/2004/1077/contents/made); the Office of Fair Trading (OFT) Guidelines on Concurrent Application to Regulated Industries (link: http://www.oft.gov.uk/shared_oft/business_leaflets/ca98_guidelines/oft405.pdf); the Letter from the OFT setting out OFT/Ofcom Concurrency Arrangements (link: http://www.ofcom.org.uk/about/organisations-we-work-with/letter-from-the-office-of-fair-trading/); and the Supplementary memorandum by Ofcom concerning the hearing on 23 January 2007 before the UK House of Lords Select Committee on Regulators (link: http://www.parliament.uk/documents/upload/ofcom-supplementary.pdf).

jurisdiction in relation to certain classes of undertaking (licensees for example) and not in relation to specific sectors or activities. That being so, there would appear to be some doubt as to whether these ICT regulators would have competence to investigate an agreement between an undertaking regulated under the BO or TO and an undertaking no so regulated. Clearly in such a case, while the CC would be competent to investigate, the CC should be nonetheless obligated to consult with OFTA or the BA as the case may be.

- We note that Schedule 8 to the Competition Bill makes provision for certain consequential and related amendments to be made to the TO. In particular in that context we note that provision is made for a section 7Q on exploitative conduct to be added to the TO. Section 7Q provides that a "licensee in a dominant position in a telecommunications market must not engage in conduct that in the opinion of the Authority is exploitive". This provision - added to the TO while the Competition Bill repeals all other competition provisions of the TO - would seem to call into question the intended scope of the second conduct rule contained in section 21 of the Competition Bill. Given that the legislator has seen a need to introduce a specific provision on exploitative conduct it would seem to follow that the legislator does not see such conduct as falling within scope of the second conduct rule. Additionally, given that the new section 7Q refers to "dominance" while section 21 of the Bill refers to a "substantial degree of market power" this might be seen as suggesting these two thresholds refer to differing degrees of market power with the former being a higher threshold. We believe legal certainty would be enhanced if these matters were clarified in the Bill.

The above concerns relate largely to the implementation of the new regime and/or the wording of particular provisions of the Bill. We would also caution against the possibility of a regulatory vacuum impacting ICT competition matters during whatever transition period there might be between entry into force of the Competition Ordinance and its full application. Clearly, a transitional period makes sense for sectors of the economy not hitherto subject to competition rules - parties understandably will need time to adjust. The same cannot be said for activities and parties currently falling within scope of the sectoral competition provisions of the BO and the TO. Some thought must be given to ensuring that protections currently afforded the competitive process in the ICT sector by existing law are not lost during the transitional implementation of the Competition Ordinance.

Recommendation (1): The EU-HK-MC ICT Business Council sees the introduction of a generalised regime for competition as a positive development and urges the Legislative Counsel to proceed swiftly with passing the Bill into law. Nonetheless, we recommend consistent application of the Bill across all ICT sectors and caution against an approach to exemptions which might have the effect of reviving something akin to the existing fragmented approach to regulation for ICT.

Recommendation (2): The EU-HK-MC ICT Business Council approves of the arrangement under the Bill which affords ICT regulators (currently OFTA and the BA, subsequently the CA) concurrent jurisdiction with the CC. It is however crucial that the various regulators establish early on a working understanding on the exercise of their shared powers and conclude a memorandum of understanding as provided for in the Bill. The need for secondary legislation should also not be discounted in this context. Additionally, where the matter under investigation concerns an ICT sector falling within the exclusive competence of the CC or where the CC is otherwise investigating a matter pertaining to an ICT sector, we recommend an effective collaboration with the ICT regulator so as to ensure an informed application of the rules. A mechanism to ensure this effective collaboration should be added to the Bill.

Recommendation (3): The EU-HK-MC ICT Business Council notes that the new section 7Q that will be added to the TO casts doubt over the meaning and scope of the second conduct rule. This uncertainty should be clarified in the text of the Competition Bill.

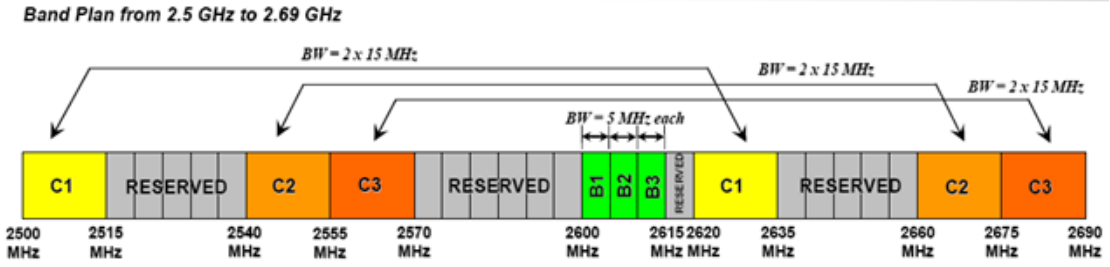
Recommendation (4): The EU-HK-MC ICT Business Council cautions against any regulatory vacuum for competition matters affecting ICT sectors during the transition from the existing sectoral regimes to the full implementation of a unified competition regime under the Competition Bill. We recommend that consideration be given now to ensuring there is no such vacuum.

The Regulatory Implications of Digital Dividend Spectrum

Spectrum When terrestrial broadcasting networks are switched from analogue to digital, a spectrum is released, and this can play an important role in the future of mobile broadband networks and IMT systems in particular. Achieving and making available the switch and the reserved bands in the 2.5GHz range to services will help foster competition between multiple platforms in delivering advanced multimedia services to the public.

Radio spectrum is indispensable for many communications services, which include mobile telecommunications, broadcasting, wireless broadband, aeronautical and maritime radio navigation, and communications for defence and/or emergency services.[10] There is a wealth of untapped potential in extending the coverage of mobile broadband services under a spectrum of 1 GHz, for instance to rural areas and the future deployment of 3G/IMT systems for use by IMT in the ITU Radio Regulations.

In this context, it is also important that enough spectrum will be made available to provide sufficient and appropriate delivery capacity for radio and broadband networks. In order to facilitate the development of global service and delivery, as well as interoperability, globally harmonized spectrum usage should be encouraged through spectrum management and licensing.[11]



Regulating Spectrum

The demand for radio-based applications continues to grow in line with the increasing mobility of the communication society, and society as a whole. It plays an essential role in bridging the "digital divide". Spectrum is a finite resource, and full access and usage is restricted by the current

[10] "10 things you need to know about Spectrum regulations & cognitive radio" EBU Technical. *European Broadcasting Union.* Switzerland. Link: http://tech.ebu.ch/docs/testmaterial/ibc09_10things_spectrum.pdf

[11] "Convergence: Spectrum Management Policy & Licensing Approaches Recommendations" *Global Business Dialogue on Electronic Commerce*. October 29, 2002. Teruyasu Muakami et al.
Link: http://www.gbd-e.org/ig/uns/Convergence_Oct02.pdf

technology, allowing therefore only a portion of the electromagnetic spectrum (EMS) to be used. Theoretically, this EMS is unlimited. Thus, if managed effectively, the spectrum can yield great economic and social value.

Spectrum management means that, as demand for it exceeds supply, it needs to be effectively managed. It should follow a model of forward-looking, non-discriminatory and pro-active management. Management of spectrum should take into consideration also the interests of users, and also ensure that an efficient and interference-free usage of frequencies, as well as fair and effective competition are upheld.[12] The main objective of spectrum management is to enable as many users as possible to operate without harmful interference. Simultaneously, the goal is to facilitate the introduction of new wireless technologies that can employ spectrum as their platform. With the convergence of services, spectrum management must be flexible and thereby encourage innovation and employment by abolishing restricted access to frequencies used for new radio technology.

There are two ways of authorising the use of spectrum: licensed and license-exempt. Licensed interference-free operation is ensured by stipulating the detailed conditions of use in the license, as based on prior compatibility studies and/or frequency plans, or *ex ante*. License-exempt, or *ex post*, use means there is no guarantee of spectrum availability nor is the interference situation known in advance.

Spectrum usage can be easily impaired by interference, which is caused by two users operating at a similar frequency. The public, though rarely a significant actor in the management of spectrum, often bears the brunt of the result of poor spectrum management.

Liberalising Spectrum Usage

Liberalising spectrum offers many benefits to users. It would ease the scarcity of spectrum for economically attractive applications such as mobile communications or broadcasting, thus giving a boost to competition in these markets. However, flexible usage has also the potential to cause considerable interference, due to the absence of a key regulator. The challenge and difficulty of managing spectrum in a light-handed regulatory environment lie in how to introduce a more flexible regulatory regime in a non-discriminatory fashion.

[12] "The Regulatory Environment for Future Mobile Multimedia Services" *International Telecommunication Union*, Document MMS/04a, 12 June 2006. *ITU New Initiatives Workshop on the Regulatory Environment for future mobile multimedia services"* Mainz, 21-23 June 2006. Page 3.
Link: http://www.itu.int/osg/spu/ni/multimobile/papers/MMSbnaspectrumflexibility.pdf

International Comparisons

Hong Kong: Last year, a consultation paper released by OFTA focused on how to reallocate further frequency, i.e. around 800MHz, for auction. OFTA intends to cover the 850 MHz but also extend this to the EGSM band of 900MHz and an additional 2.1GHz range.

In the UHF frequency band, currently China Mobile Hong Kong successfully obtained channel 47 for the deployment of mobile TV in Hong Kong. The 8 MHz range (678MHz-686MHz) is the first step by the Hong Kong Government to deploy in mobile TV. Their idea is to see how the deployment operates in this trial before they decide to allocate more frequency for the deployment. There is another channel, that of 62, available for the purpose of mobile TV. But this will be outside of the 702MHz range which is not fit for DVB-H devices. In terms of the 400MHz range, most of it is occupied for Land mobile use.

Europe: In Europe, the European Conference of Postal and Telecommunications Administrations is the principle spectrum management forum at a European level.[13] The European Commission, also holding a key role in spectrum management, is developing a common approach to the use of the spectrum released by the digital switchover. The European Commission recommended Member States to complete analogue switch off by 1 January 2012 and to support regulatory efforts towards a harmonised use of the 800MHz band.

A mobile allocation and IMT identification were agreed in November 2007, which will take effect in the entire Region from mid-2015 onwards. This identification is effective in approx. 60 countries and even if it is not expected to slow down the introduction of mobile services in those countries that did not agree to the earlier date, there is still some uncertainty over the level of harmonisation that may finally be achieved.

The timetable for digital switchover varies from country to country: it has been completed in Germany and Spain. It is scheduled to complete in 2012 in Czech Rep. and UK (despite the 2012 scheduled completion date for switchover in the UK, the main award for cleared spectrum may take place in 2011). There is no date set yet in Ireland.

Issues:

- The mobile industry was relatively late in reacting to the opportunity of digital switch-over to identify additional mobile spectrum in the UHF band.
- Possibility of spectrum availability in different dates in terms of geographical zones.
- Compatibility /interferences between broadcast and electronic communications services.

[13] "10 things you need to know about Spectrum regulations & cognitive radio" EBU Technical. *European Broadcasting Union.* Switzerland. Link: http://tech.ebu.ch/docs/testmaterial/ibc09_10things_spectrum.pdf

- The reserved bands in the 2.5GHz spectrum are being occupied by the MMDS (2535-2600MHz) system and Satellite TV (2635-2660MHz) in mainland China.

Recommendation (1)

1.1 Regulatory authorities should take a non-discriminatory approach to the award of any spectrum that will be liberated after the analogue switch-off, in order to guarantee the right of all companies to compete for the spectrum under the same conditions as other possible new licensees. Achieving this end would seem to involve not restricting licensees to specific technologies or applications as a condition of their licenses. Since interference concerns remain as pressing as ever, the licensee would still be subject to usage constraints. But the objective would be to confine the licensee to specified emissions that could be radiated within the licensees awarded band. Assuming these conditions were met the licensee would be free to deploy any technology or service.[14] With less regulatory oversight and more flexibility given to licencees with respect to the technology they deploy, the exercise of their licence and whether they are able to transfer their licence to subsequent users without regulatory consent, the likelihood of unexpected interference scenarios would become greater.[15]

1.2 In order to fulfil this objective, a *principle of neutrality*, as what has been done in Europe, should be applied to technology and services (fixed or mobile), and spectrum trade would be made feasible. Service neutrality refers to the adoption of appropriate steps to promote specific services where this is justified.[16] In addition, an *economical compensation* could be established for financing the cost of releasing this band by TV broadcasters or the frequencies interfering within Mainland China.

Recommendation (2)

2.1 The need to achieve harmonization[17] in spectrum bands around the world, in particular in newly allocated and/or identified spectrum bands, is also vital to the competitiveness and sustainability of the market integrity. As in the EU, a separation of spectrum management exists. In the supra-national level, *technical harmonization* includes measures to promote economies of scale by granting investment certainty and facilitating interoperability. *Non-technical harmonization*, at the national level occurs where industry participants adopt similar technology uses in a given frequency band in response to market forces or commercial imperative without such use being imposed by regulators.[18] Digital convergence will also increase the scope of globally-harmonized spectrum usage. Mobile users will need to be able to connect to various local area networks and national broadcasting networks. In order to use their own terminals, spectrum for these networks should be harmonized globally in the same way as spectrum for wide area radio networks has been

[14] "Spectrum Management and Cognitive Radio in Ireland" By Rajen Akalu, *CRNI Brussels Conference;* Link: http://crni.epfl.ch/papers/akalu.pdf . Page 36

[15] Ibid., page 37

[16] Ibid., page 35

[17] The term "*Harmonization*" is generally understood as a process to increase commonalities and to decrease differences with the aim to improve interoperability and compatibility (between standards). A primary goal of *Reconfigurability* is to realise technology Harmonization. From the spectrum usage viewpoint, *harmonized spectrum* is a prerequisite for economics of scale and eases global roaming. From "Cognitive Radio, Spectrum and Radio Resource Management"

[18] Ibid., page 34

harmonized.[19]

2.2 In the 2.5GHz spectrum, further work and co-ordinate with mainland China regulator on the usage of the 2535-2600MHz which is currently being used by MMDS system in China. The co-ordination can be realised by alleviating the MMDS usage in the border area between HK & mainland.

Recommendation (3)

3.1 The GSMA DD Project is undertaking technical studies that currently include the engagement of a consultant to monitor and input to the ITU to help ensure that the use of 790-862MHz is not unduly hindered by the protection required to/from broadcasters, discussion of the implications on cable TV systems and discussion of the band plan options that should be recommended in ITU-R for Asia-Pacific.

Recommendation (4)

4.1 In Hong Kong, we would request a deployment schedule from the Hong Kong Government about the reallocation for lower frequencies, an updated about the status of the consultation paper from OFTA. There are portions of assigned spectrum that are used only in certain geographical areas and there are some portions of assigned spectrum that are used only for brief periods of time. Studies have shown that even a straightforward reuse of such "wasted" spectrum can provide an order of magnitude improvement in available capacity.[20]

In Europe there are two approaches aiming to increase spectrum efficiency through higher flexibility. One is the "Full Flexible Spectrum Allocation" (FSA) which would identify and develop new methodologies for the spectrum management in order to increase the spectrum utilization efficiency and solve for spectrum scarcity problems.[21]

The other method is the principle of Spectrum Pooling (SP). This approach takes advantage of the cognitive radio approach, first introduced by Mitola. The ability of such a radio to detect free sub bands within a certain frequency band would enable the equipment to exploit unused frequencies without a disadvantage for the license owner of the spectrum and to enable dynamic spectrum sharing (DSS) and dynamic spectrum allocation (DSA). Classical spectrum pooling can be applied for increasing spectrum utilization without changes in existing networks.

4.2 B1-B3 blocks are not being occupied. Releasing these blocks can form a 40MHz block (2575 – 2615MHz) for TDD use. TD-LTE is one of the technology options for this band as it falls right on the 3GPP Band 38 for TDD. In terms of radio performance 40MHz of TD-LTE is comparable to 2X20MHz FDD-LTE.

4.3 Further co-ordinate with the Chinese Mainland on the 2635-2660MHz band. Releasing this band offers an attractive paired block of 2515-2540 MHz and 2635-2660MHz for FDD use. This pair can be further auctioned for 2X20MHz FDD-LTE system.

[19] "Convergence: Spectrum Management Policy & Licensing Approaches Recommendations" *Global Business Dialogue on Electronic Commerce*. October 29, 2002. Teruyasu Muakami et al.
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[20] "Cognitive Radio, Spectrum and Radio Resource Management" *Wireless World Research Forum, Working Group 6 White Paper.* 2004 Link: http://www.wireless-world-research.org/fileadmin/sites/default/files/about_the_forum/WG/WG6/White%20Paper/WG6_WP4.pdf

[21] Ibid., pg 18

Consequences of Delayed Action

The widening gap between technology trends and the current regulatory framework urgently calls for a change. The longer this is delayed, the higher the barrier will grow. One key consequence would be the *economical/technical barriers that potentially limit and distort competition*. Other key barriers that will limit the success of the rollout of truly converged services include, but not limited to, are:

- **Uncertainty regarding the direction of legislation**: Holds back investments by telecommunication operators

- **Copyright issues**: Increases complexity in clearing contents across multiple screens, ultimately affects costs to end-users.

- **Inefficiency of Content Market:** Convoluted terms and conditions of licensing agreements, inability to deliver the 'same' service across multiple technology 'silos' and service providers in 'closed' access technologies.

- **Diverging / closed standards on customer premise termination devices** (i.e. set top box in the case of IPTV): Limits consumers' ability to personalize their TV and media consumption across different access types, encryption mechanism and service providers.

The openness of the telecommunications sector is inevitable, and a proactive attitude is central to the success of the ICT business area. In Hong Kong, where the pace of technological changes is high, regulators have the responsibility to ensure that all services are provided to consumers in an equitable manner. In addition, the regulatory framework should also present providers, big or small, with a level playing field, in order to preserve the integrity and sustainability of the ICT market.

Because of the increased popularity in the use of IPTV and new generation media services, there is all the more reason to regulate the services effectively and impartially to ensure a fair market access and equal playing field for existing and incumbent operators, and for ensuring that consumers enjoy the benefits of 'best practices'.

Consequences to the Spectrum issue:

- Lack of competition in the markets: The challenge and difficulty of managing spectrum in a liberalised environment lie in how to introduce a more flexible regulatory regime in a non-discriminatory fashion.

Conclusion

It is on the urging of European-based companies that the European Commission recommends in its talks with Hong Kong to regulate effectively and thoroughly the communications and technological market sector in Hong Kong in order to allow entry of foreign, especially European-based, firms. Such firms exhibit a high-quality of service and a wide range of options, as proven by the annual European ICT Prize[22] and its many nominees and winners. Entry into Hong Kong would first provide exposure to European firms about various social issues which may benefit from particular technological advances; and second, create an initiative for Hong Kong and European firms to have a dialogue for technological advances. The global nature of the Hong Kong ICT market can indeed benefit from the involvement of European firms. However before this can be achieved and effectuated, an engaged, cooperative, and responsive regulatory framework will be necessitated to support this structure.

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