

Telecoms InfoTechnology Forum – 25th March 2004

Hong Kong as Asia Wireless Development Centre

Executive Digest and Executive Summary

Digest of Executive Summary – See Below	
Hong Kong's advantages include:	Cultural as well as commercial closeness to Mainland China and being part of the Pearl River Delta with over 40 million cellphone users, more than Beijing and Shanghai combined; Hong Kong developers often find it easier to start operations in the PRD, before moving further inland.
Driving mobile "data"	Demand for access may level off, but demand for usage is the driver and requires (a) low prices (b) simplified pricing schemes, and (c) many useful and easy-to-use applications
Demand for applications	Two types: (a) peer-to-peer, and (b) value-added, such as remote monitoring services.
BREW and JAVA	Both have their place. Java creates common platforms across diverse networks and applications that are not too secure; BREW offers a common platform on secure networks, encouraging security to shift from the handsets and third-parties to the operators' networks.
Hype	People choose what they want to use, not operators; handsets and networks rarely deliver all that they promise, but is it sufficient for the applications to work well?
Standardization	Interoperability is the key functionality, for example at the applications service layer of the stack, which is really harmonization of standards; at the consumer end standardization of functionality is a market opener, but not at the expense of choice.
Standards in Hong Kong	Should Hong Kong adopt Mainland China's standards as they develop to gain access to the mass market?
Standardization and the role of HKWDC	Promote harmonization of standards or standardization as appropriate; (b) collaborate with overseas Centres to achieve this at the regional and global levels
Marketing role of HKWDC	(a) Promote a "Seal of Approval" that can be widely recognized; (b) publicize success stories; (c) run annual competitions for developers;
HKWDC focus	3 enterprise sectors – logistics, tourism and financial and insurance markets) and one consumer market, mobile entertainment.
Business models	Hong Kong operators need to seriously reconsider the business models they offer developers, simplifying them (maybe <i>the key issue</i>) and offering more stimulation to the market; but simple models also need to be known about, so <i>transparency</i> is also important; the role of aggregators needs to develop in Hong Kong – a role for the HKWDC?

3G	On the network side it offers considerable economies in the use of spectrum and for that reason alone it will eventually replace 2G; as it becomes truly broadband it offers considerable scope for convergence between access devices feeding traffic into networks; on the demand side, see Mobile “data” above. On the issue of yet more 3G licences, it could be noted that (a) sooner or later all the 2G networks will migrate to 3G, and (b) OFTA’s position has always been consistent – let the market decide, and ‘protect competition, not the competitors.’
Developers in Hong Kong	Need the mass market of China, but Hong Kong is an excellent test-bed; need standardized business models to cut down on endless repetitions of business applications and revisions in application specifications.
Cultural issues	It seems that Hong Kong people like to talk and listen, and are less inclined to text messages; they are more responsive to ‘pushed’ content than to ‘pulled’ content
Challenges, such as Chinese character sets, security, DRM and IPRs	These represent challenges, but by definition challenges represent commercial opportunities for those who can offer solutions; this is where Hong Kong should put its focus?
Way forward for Hong Kong developers	Reduce complexity of applications, drive down prices and pave the way for Hong Kong brands to emerge.
Research & Development	Needs Mainland China market to justify the cost. The HKWDC can play an important facilitating and partnering role here?
Role of HK Government	As a promoter and facilitator, wireless, especially for enterprise solutions, is already a high priority; as a user Government can promote the use of wireless for staff working outdoors and for public access to online information.
HKWDC	Already a really practical achievement; for sustainability HKWDC may need to examine its role as a potential aggregator, as a provider of some services to specific clients, as a partner in development, and as a test and authentication centre.

Executive Summary

Introduction

1. In November 2002 a proposal from the TIF conference was for the establishment of a Wireless Development Centre. In December 2003 the **HKWDC** opened at Cyberport with **Stephen Lai** appointed as **Centre Director**. Support for the proposal from the **Commerce, Industry and Technology Bureau (CITB)** and the **Wireless Technology Industry Association (WTIA)**, together with funding from the Information Technology Fund, brought the idea to fruition. **TIF March 2004 is the first to be co-organized with the HKWDC** and is not just a celebration of the HKWDC’s beginnings of operation, but a considered look at the future steps and priorities for realizing Hong Kong’s potential as a wireless development centre for content and applications for the region and even globally.

2. To achieve these goals the HKWDC has already entered into relationships with similar business and research centres overseas, in Australia with Adelaide-based **M-Net**, in Canada with Calgary-based **NEWT**¹, a subsidiary of TRILabs, and in the UK with **Cambridge 3G**. With **sponsorship from InvestHK**, TIF was able to invite participants from each of these centres and also to welcome the new **Mobile Media Institute** based in Los Angeles. In addition, HKWDC was able to invite to Hong Kong a delegation of seventeen representatives of the **Value-Added Service Committee of the China Association of Communication Enterprise**. One of the objectives of this TIF was to help HKWDC cement good working relationships with all these organizations, including certification procedures and business models for closer collaboration. For the future HKWDC will be looking to work closely with China Mobile, China Unicom and other China organizations to promote content and applications deployment between Hong Kong and the Mainland.
3. With over 200 participants from across the industry gathered at the **Mandarin Oriental Hotel, a Silver Sponsor** of the event. The main themes of the conference were established by keynote speeches from our **Gold Sponsors, Qualcomm and Sunday Communications**, with the focus on the prospects for 3G and the nature of the demand for ‘data’ content and applications and its pricing on the one hand, and the role of the HKWDC on the other.

Welcoming Address

4. In light of how effective the CITB has been in bringing the HKWDC into reality it is appropriate that the **Welcoming Address** was provided by **John Tsang, Secretary of the CITB** who stressed the advantages Hong Kong has in its close relationship with Mainland China, culturally as well commercially. The challenge, as he points out, is to get all the sectors of the industry working constructively together, collaboratively as far as is commercially feasible.
5. Placing this challenge in context, we can note that in Hong Kong there has been no dominant mobile operator to establish *de facto* industry standards, for example unlike DoCoMo in Japan and SK Telecom in Korea. The companies are mostly owned by family-related conglomerates with deep pockets, and this has probably impeded any industry consolidation that might have taken place despite thin margins. Economists call this type of market ‘monopoly competition’ in which each operator tries to differentiate their product from others (create a monopoly ‘brand’) or ‘loose oligopoly’ in which just a few companies have roughly similar market shares that gives rise to intense competition. This has encouraged companies in the past to be intensely secretive and exclusive in their dealings with developers, tending to fragment an already segmented market. So one way in which to view the challenge is to ask the question: how can operators, along with vendors, developers and others, begin to work together in more open and collaborative ways? Some interesting answers were offered.

Session One: Keynote Speakers

¹ NEWT stands for Newly Emerging Wireless Technologies.

6. **Session One** was chaired by **Duncan Lau, Chairman of WTIA**, who introduced our first keynote speaker **Ted Matsumoto, President of Qualcomm, Japan**. Ted's performance was an exceptionally energetic and amusing one, ideal for a conference on what otherwise could be a very dry subject. But Ted made good serious points, for example there is no 'killer application'. There is only growing consumer interest in content and applications 'if the price is low enough' and the over-riding advantage of 3G is its lower transmission costs for data that will make it unbeatable as soon as the transition issues, such as network coverage and battery lifetimes have been laid to rest. As Ted says, 'it is very simple.' Where Japan and Korea may appear to be different at the moment is that 'in Japan in general, application was the driving factor.' Ted cites examples such as location-based services to Japanese cars (there over 70 million of them), and the use of high-resolution phone-cameras, but not for video-conferencing ('people don't want to communicate and show your face') but rather for swapping pictures and scenes. Drawing a distinction between access and usage, Ted points out that the demand for data access has reached a plateau in Japan, increasing slowly, but usage continues to grow strongly in light of low prices and lots of choice. He also pours cold water on the idea of data rates, noting that efficient use of bandwidth is the real operating advantage.
7. Future usage will come from two areas: self-applications, such as peer-to-peer and m-commerce, with much less reliance on server-based communications. Second, from independent value-added services, such as the use of phone-cameras to monitor your house when you are out, or to check the length of a cinema queue before deciding on which movie to see ('government and private sectors are trying to put the camera everywhere.'). Ted ends by pointing out a significance difference between BREW, which is used by 23 operators around the world, and JAVA. JAVA is ideal for networks on which the servers are not secure, whereas BREW can support JAVA applications in environments where the servers are secure, typically within the network of a mobile telephone operator.
8. Our second keynote speaker, **Bruce Hicks, Group Managing Director, Sunday Communications**, is enthusiastic with the speed at which the HKWDC has been established (it was Bruce who raised the proposal in the November 2002 TIF) and focused upon three next steps for the industry and two tasks for the HKWDC. Noting that all the service providers in Hong Kong operate GSM, including the four 3G licence holders, it is important they come together (a) to achieve service application layer standardization; (b) to implement those standards; and (c) to help the HKWDC promote the sector. In this regard the HKWDC needs (a) a library of information about standards to promote these among developers; (b) a technical centre to test these standards. Bruce recently returned from the GSM conference in Cannes and he returned with the following message. 'We need to get a hold of this standardization effort, we need to take it away from manufacturers, it needs to be in the hands of the operators so we can get a much better deployment of consistence innovation.'² [In

² During the first phase of mobile cellular telephony handset designs and operating systems were firmly in the hands of the manufacturers who sold directly to service providers. During the second phase customers could exercise their own direct influence as handsets become commodity items, but in a few cases

contrast to November 2002, there was a notable absence of vendors from this TIF with the exception of Qualcomm, a signal perhaps that the vendor community is facing uncertainties at this time. It is hoped this does not imply less vendor commitment to the vision of initiatives such as the HKWDC – JU].

9. Bruce ends with three pointers for the HKWDC. First, it should promote a ‘Seal of Approval’ that could be recognized by all the local operators. Second, ‘ensure that successful solutions are publicized in other innovation centres around the world and to other operators throughout the world.’ Third, an annual programme and competition each year to showcase what is being developed by Hong Kong innovators.
10. Session One ends with a detailed outline from **Stephen Lai, Centre Director of the HKWDC** and co-organizer of the conference, of the work of the Centre and its perspectives. The Centre is managed by the WTIA and since opening at Cyberport in December 2003 has attracted 61 members, half from established companies and half from start-ups, mostly focused on general or enterprise applications. The Centre aims to attract international investors and anchor tenants, with a focus on anchor projects clustered into three enterprise segments (logistics, tourism industry, the finance and insurance markets) and one mass market segment, mobile entertainment. The Centre already provides broadband connections to the servers of the six Hong Kong operators providing for HKWDC members with direct access to test applications on different platforms. Stephen charts the ‘eco-system’ the HKWDC is building with all segments of the industry, ranging from the Advisory Board of 40 industry members, to seminars with industry consultants, support for exhibitions, building an information library of the kind outlined by Bruce Hicks earlier, working with the operators to develop common standards and looking into common business models to help the developer community. A key part of the drive to promote Hong Kong as a regional hub has been the international links developed by the HKWDC, including Singapore, and this conference is part of that process.

Session Two

11. **Session Two** after the coffee break is chaired by **Dr Lawrence Cheung of the Productivity Council**. Picking up on earlier themes, **Mike Robey, COO, HKCSL (Silver Sponsor)** focused on two issues, content and standards. Content has to have certain characteristics to sell well, for example it must be specific to mobile and it must be personalized, and Mike sounds more skeptical than Ted Matsumoto about the demand for convergence, as supported by the convergence of MP3 players or cameras with mobile phones, believing that single devices can be made more attractive and cheaper for consumers. Mike picks up the idea of the ‘eco-system’ (‘one of those sexy new-age words, but what it means is strong competition but with some standards

dominant companies like DoCoMo could dictate the designs of the handsets. Manufactures coalesced around operating systems such as Palm, the Symbian alliance, Microsoft’s PocketPC, etc. Most recently several operators with an international presence, such as Vodafone, Orange, Telefonica, T-Mobile, have formed an alliance to use standardized ‘open plan’ operating systems. The balance of power may be shifting.

behind them’) and sees in Ted’s Japan not one but three eco-systems, operating largely independently of each other. ‘The reason, it is a huge market’ and transplanting the Japanese or Korean models to Hong Kong ‘you will probably get a different outcome.’ He also instances the poor take up of SMS in Hong Kong, even for receiving information, operators finding that inquiries are more popularly handled through IVRs (interactive voice recordings). But Mike agrees this means Hong Kong operators tie down the market by tying-in the developers and that frustrates growth. He adds ‘me saying this, the high relative tariff of data is not a particularly strong stimulant for content.’ Mike offers some solutions. Number one, is for Hong Kong operators to follow Mainland China’s standards as they develop as this is the way into a mass market. Number two, then consider a different revenue-sharing model with developers. Number three, why not consider a ‘third party’ to act as an aggregator for the operators, and for example ‘get an intermediary to get access to short codes, start to drive standards and actually drive the industry as a ecology body.’ [*Is this a possible role for the HKWDC? – JU*]

12. **Helena Lee, Director of Services Planning, Hutchison Telecom HK Ltd (Silver Sponsor)** followed Mike. Helena begins by pointing out just how crowded the Hong Kong market already is. Echoing Mike, Helena agrees that the pressure of the market has forced Hong Kong operators into seeking competitive advantage through exclusive content deals, but suggests that the evolution of 3G offers a way out of the dilemma. Hutchison’s strategy is to go global (Hutchison has ten 3G licences) to achieve economies of scale for the design of handsets and multimedia content. Being global also provides much wider marketing information about consumer preferences using an IP platform to integrate rich media services. The era of 3G will clearly be ‘data’ driven and the implication is that it is only a matter of time before the scale of demand can support a flourishing industry, and it is on that basis that industry standards can also flourish. As a positive step in this direction in Hong Kong, Hutchison have formed a ‘3 developer program with the aim to provide a more open platform to work with application providers and also content providers. We understand that it may be difficult for our developers and providers to work with different operators, so it is something we insist that we should open up the platform and all the specifications and all the ways to work with the steps to ease and to facilitate the development of innovations and applications in Hong Kong.’ [*If the rest of the industry follows, 3G and this initiative by Hutchison Telecom could become a catalyst for the industry – JU*] Helena adds the point that the 3G industry will be driven by the appeal of applications, not technologies, a point that has so far been largely lost on an industry that has driven customer churn mainly through the lure of new or subsidized handsets.

13. The presentations by **Mike** and **Helena** were followed by short introductions from panelists:

- (i) **Hordern Wiltshire, CEO M-Net (Adelaide)** introduced M-Net which is supported by Telstra, some T2 carriers, Alcatel, Cisco, Motorola, and three of Australia’s leading universities. M-Net has 3G and Wifi networks extending

from the University of South Australia to Adelaide's CBD. Early on M-Net recognized the need to go beyond testing alone and developed an applications Gallery 4 with over 25 companies participating. M-Net has put seed-money into some of the applications, in some cases into the companies as well, and into developments with the universities.

- (ii) **Duane Sniezek, Director Network for Emerging Wireless Technologies (NEWT, Calgary)** explained NEWT, including TRILabs, support hardware and software development and testing for suppliers of wireless products and services, and from April this year will include 802.16 and GSM/GPRS. Founded by the Government of Alberta with industry support, major sponsors include IBM, HP, Sun, Nortel, and Canada's second largest carrier, Tellas. NEWT is a member of a coast-to-coast wireless network known as CWNet. Canada has two CDMA and one GSM operator and they act independently, so the big task for NEWT is to help small developers overcome all the problems of access to platforms, information specs., business models, etc. It remains at an early stage.
- (iii) **Raymond Southam, CFO Cambridge Positioning Systems, represents the Cambridge 3G** consortium founded in 1999 to bring the unique cluster of Cambridge research and engineering capabilities to the development of 3G technologies and services. Founding members include Ericsson and Vodafone (who jointly provided a WCDMA test network), Nokia, Vodafone, 3i venture capital, and Cambridge University itself. The issues in Cambridge exactly echo those in Hong Kong, Australia and Canada and this reminds Raymond of the situation of the IT industry in the 1980s when all the sectors were searching for ways and standards to work together while remaining intensely competitive. His own company, CPS, provides LBS services, an area of the market that should be a natural for mobile services as the industry struggles to find the right business model.
- (iv) **Kin Ko is CEO of InfoIsLive (iiL Corp)** a local Hong Kong content provider (primarily mobile entertainment applications) funded since 1999 by Mitsubishi and Index from Japan. Kin Ko agrees with the points raised by Mike and Helena but adds a plea for a standardized business model. He makes the point that entering the Mainland China market usually involves remaking the applications all over again, mainly due to the revenue-sharing arrangements involved. Making money in Hong Kong is not so important. Hong Kong can be the testbed, and China the revenue source, if business model standardization can be achieved.
- (v) **Arthur Chang, CEO, Green Tomato** highlights the improved and simplified procedures of Government support for small enterprises. His company benefitted from the Small Enterprise Research Assistant Program to develop its data distribution engine, now used by a local operator to deploy mobile services in China. Green Tomato is located at the Science Park. There is still room for improvement however, especially in the area of Government credit support for SMEs. Arthur agrees with Kin Ko that the revenue model in China is easier, although foreign providers still have to go through aggregators and portals, although portals like Sohu are actually listed and owned overseas.

IPRs are also an ongoing issue, which is why Green Tomato focuses on networked games where the mobile operators control access and revenues. On the pricing of data services in Hong Kong, Arthur understands the problems of the operators but stresses that pricing and awareness are twin issues that are holding back demand in Hong Kong. For example, on Mainland China people will SMS to check on meetings times with colleagues. In Hong Kong people try phoning the secretary.

14. **Lawrence Cheung** opened the panel discussion, starting with a focus on standards and how the industry can come together. **Duane** points out that in such a complex situation the industry needs a third party, an arbitrator and perhaps the development centres can play a role here. **Horden** adds that on the business model side of standardization and in M-Net's experience carrier billing systems are essential for revenue-sharing arrangements to provide incentives for developers. **Mike** warns against the lure of national, yet proprietary standards, noting that 50 per cent of Hong Kong business people are not in Hong Kong at any one time and they need phones that work across various standards. As **Helena** had pointed out, even within standards there are standards. She adds in response to Kin Ko that because operators in Hong Kong have grown up with many different arrangements with different vendors and developers, a single unified business model is probably unrealistic, but Helena welcomes the HKWDC to play a role. **Lawrence** notes that revenue-sharing in Japan range from 12% to 8%, and while there is no single standard, each model is simple. In response to a question from the floor **Mike** and **Helena** discuss the role of their portals as a way for developers to test their products, while **Raymond** points out that in the UK a large organization like Vodafone Live use intermediaries or aggregators.
15. A special guest, **Janet Pearce Stenzel, Executive Advisor, Mobile Media Institute (Los Angeles)** recounts how, at her recent meeting with the carriers, vendors and manufacturers in the USA, they all explained why standardization was just not possible, from which she concludes that possible or not, it will be forever difficult. She adds that simplifying the business model is fine, but not if nobody knows about it within a large organization, so transparency is also necessary. Finally she notes that the US carriers are also moving towards aggregators, but issues of digital rights management (DRM) are holding back many of the major content suppliers, such as the big studios. **Horden** adds that moving into content aggregation is one of the options for M-Net to develop sustainability as he sees the same trends in Australia, and this may be an option for HKWDC. **Mike Robey** agrees as this is one way to tackle the problem of fragmentation. **Kin Ko**, who sees most Hong Kong developers fail to break into the China market, agrees with Mike's point that HKWDC could help in promoting Mainland China standards in platforms and business models. **Arthur** sees the role of aggregators as necessary but further down the road.
16. **Lawrence** picks up on Mike's earlier point that the Japanese and Korean models are difficult to export given the very different market structures, and efforts in Europe and North America to copy the DoCoMo model have not met with much success. For **Mike** the issue is the non-international scale of most operators, they just cannot

exercise that much influence over manufactures. **Helena** sums up: ‘so far I think because none of us have been working on this cost and benefit analysis so we just grab whatever opportunities we have in mind or in front of us. So with all the concerted efforts, maybe this will be the right time to think of aggregations and we will actually see the benefits and also the lower cost of it.’

17. **Lawrence** put a final question about the China market. **Arthur** believes the situation is not as rigid as the regulations would appear to make it, there are ways around restrictions through portals. **Kin Ko** explains when iiL first entered the market they made the mistake of setting up in Beijing, too far away to manage easily, so they relocated to Guangzhou which is manageable. At first they also met stiff resistance from the Service Providers (SPs) who did not see the need to work with Content Providers (CPs) but that situation has changed. Now working with China Mobile is easy, and through the use of a bulletin board he can even manage his content and change the service pricing.
18. A question from **India** from the floor asked about the Hong Kong market. **Helena** explains that consumers in Hong Kong mostly use their phones for downloads, not for SMS or emails. Voice calls are cheap and speaking Cantonese is easier than keying. **Mike** agrees totally, ‘it is basic to success in Hong Kong you have to push, as Helena mentioned, because people do not have the patience to pull.’
19. The final question of Session Two concerned the role of the aggregator and what ‘value’ would they claim back from the content provider. **Horden** explains that M-Net often offers SMEs better terms than they would get from large operators, but much depends upon what the aggregator adds to value, such as promotion of the product. He gives the example of a trial SMS service that informs about current house prices and provides the purchase history. If this is promoted through the media then the media takes its share of the value as well as the aggregator. Ultimately the revenue generation itself hinges on the billing system of the carrier, so who adds what value and who collects value has to be worked through.

Afternoon: Session Three

20. **Session Three** was chaired by **John Ure, Director of the Telecommunications Research Project, University of Hong Kong**, who introduces **John Rutherford, Associate Director General, InvestHK**, last year voted the best investment agency in Asia because of responsiveness and for helping bring inward investment from 142 companies. John would be pleased to hear Horden from M-Net later say he had already made contact with several developers in Hong Kong at TIF. John explains that telecommunications and IT are part of the nine priorities areas for InvestHK. He follows his boss, John Tsang in the Welcoming Address, in pointing out that Hong Kong lies within the Pearl River Delta area of 41 million mobile phone users, or 15 per cent of all China’s users, more than Beijing and Shanghai combined, adding that CEPA (the Closer Economic Partnership Agreement) will certainly help by adding indirect access to China’s mobile market by stimulating investment in business sectors with tremendous wireless platform usage potential, for example the logistics

and banking and financial sectors. John reviewed both the hard and soft infrastructure advantages of Hong Kong, as well as Government initiatives such as Cyberport and Science Park. It really is the case that Hong Kong is exceptionally well positioned to take advantage of the wireless era.

21. **M.H.Au, Director-General of OFTA** addressed the controversial issue for the industry of a possible re-assignment of spectrum for CDMA2000 3G. M.H. stressed it would be the market, not OFTA, that decides whether there is room for another licence. If there are investors who see an opportunity to innovate in the cellular broadband space with spectrum-efficient delivery of services that offer innovation and market appeal then they will bid. OFTA is in the process of consultation, but OFTA's objective is not to protect existing investment - 'the task of the regulator is to protect competition, not competitors' – but to facilitate innovation for consumers and opportunities for developers, to 'spawn new industries and enhance Hong Kong's status as the mobile services hub in Asia.' M.H. stresses that this policy had been announced well in advance of issuing earlier licences, and licencees well knew they would have to face competing technologies like WiFi and WiMax. If new licences were to be issued then open network access to developers will be required, with published access tariffs, but OFTA would only invoke licence conditions in the event of the market failing to achieve widespread access to the developer community as has been achieved in Japan and Korea. 'Competition spurs both the incumbents and a new entrant to invest' and any industry consolidation that followed could be handled by the recent M&A legislation.
22. **Alan Wong, Director of Information Technology Services** focused on the issue of enterprise take up of wireless technologies, referring to user awareness issues and some of the hurdles to be overcome. Using Chinese language character sets is one of these. Uncertain security of wireless networks is another. These are challenges, which represent opportunities for companies that can supply solutions. But what Hong Kong entrepreneurs need to focus on are more generic solutions which can drive down prices, reduce complexity and pave the way for Hong Kong brands. R&D is expensive and requires a large market, and this is an area where the HKWDC can play a significant role, by both linking developers to different operator platforms and building bridges into Mainland China's market. Alan also stresses the lead role that Government can play as a user, especially for staff who need to operate outside their offices, such as customs officials, police, postal workers, engineers, and so on. Alan chairs a Task Force to look into these issues, including promotional and marketing activities, and Lawrence Cheung, Duncan Lau and Stephen Lai all serve on that Task Force.

Session Four

23. **Session Four** was chaired by **Francis Fong, Council Member and Director, Hong Kong Information Technology Federation**. At this point TIF was pleased to welcome the arrival from Mainland China of **Ms Patti Yang, Secretary General of the Value Added Services Committee, China Association of Communication Enterprises**, and sixteen of her colleagues. Patti joined the final discussion panel

along with **Stephen Lai** (HKWDC, **Janet Pearce Stenzil** (Mobile Media Institute, Los Angeles, USA), **Duane Sniezek**, (NEWT, Canada) **Horden Wiltshire** (M-Net, Australia), **Raymond Southam** (Cambridge 3G) and **Henry Wong** (Sunday Communications).

24. **Patti** spoke in Putonghua (translated by Francis) pointing out that China is a fast growing market and manufacturers and VAS providers are looking for business partnerships and opportunities. Later in the discussion Patti added that Korean, not Chinese game makers are dominant in the Mainland market, so there are plenty of opportunities for outside entry for those who understood the Mainland market. Later in the evening the HKWDC hosted a seafood dinner (Lamma Island) for the delegation as an opportunity to meet Hong Kong developers.
25. **Janet** explained that the **Mobile Media Institute** was just 48 hours old! Based at the University of Southern California, MMI brings together six schools and disciplines, theatre, cinema, music, law, business, engineering and the Annenberg School of Communications, and is supported by founding firms from across the multimedia industry, including the movie studios. A primary focus of the MMI will be consumer behaviour and market profiling, including issues such as DRM and IPRs, as well as training and partnering. MMI is currently working on building collaborative relationships in Hong Kong, China, Korea and the Philippines.
26. **Duane** explained that the parent group of NEWT was TRILabs and the focus was very much on R&D using wireless platforms. **Horden** congratulated Stephen and the HKWDC for being so proactive in making international links, it had taken M-Net more like 18 months before its first MOU. What M-Net was looking for were commercial arrangements that could bring benefits in both directions, explaining that M-Net was moving more into the space of aggregation. **Raymond** outlined Cambridge 3G's focus as more on R&D, especially location based services and the use of coming wireless technologies such as ultra-wideband, utilizing the strengths of the University of Cambridge and firms associated with it. While **Janet** stressed that 'content was king', **Raymond** argued that business models were changing and models that worked in Japan did not necessarily work in other countries, so some of the large content providers, such as media organizations, would have to rethink delivery of content to extract profits from the value chain, for example, they currently demanded high fees upfront rather than accepting revenue-sharing with service providers. How emerging technologies might impact on the value-chain and business models was more the Cambridge focus.
27. **Henry** focused on the issue of accessibility of operators to local developers. Only 30 per cent of the time required is really about technical issues, the big issues are about business development, and here there is little that is standard across the operators. The HKWDC can help on both sides of the equation. **Stephen** agreed that this was a role for the HKWDC, explaining he was in discussions about technical testing with Canada and with China, but he was also impressed with the commercial focus of M-Net.

28. The issue running through both the technical and business sides of the equation always returned to the need for a degree of standardization. For example, the issue of standards arose again when the issue of roaming was discussed. Apart from lowering prices, data roaming would get stimulation from international interoperability and uniform charging schemes. But **Raymond** was wary of too much standardization which could stifle innovation, for example in the handset and access device sector. Where there was agreement was with **Duane's** suggestion that development centres should start acting together to put greater pressure on vendors and operators to bring their products more into line with each other to exploit regional and global opportunities. **Raymond** added that collaboration would add to an understanding of how things were organized in different regions which in turn would help with the commercialization of applications.
29. **Horden** agreed, but pointed out that not all applications can travel overseas. He instanced utility applications that were tailored for particular sectors, such as the health sector, that was organized along different lines in different countries. In a sense, he was referring to the lack of standardization from the user end. **Henry** argued that part of the solution to making applications more of a growth area was to make them less complex, and move the complexity from the handset to the network so the operators can make life simpler for the end-user. **Henry's** point reflects the GSM Association's focus as outlined by Bruce Hicks in Session One. That was a message he would like to see development centres make to vendors and operators around the world. **Francis** added that Java is one tool for bringing together disparate applications across platforms such as SMS, IM, MMS, AIM, etc.

Conclusions

30. In conclusion, **John Ure** thanked all the speakers and participants, although he noted that this time around vendors were noticeable by their absence. He hoped this did not imply their interest in these issues was not being sustained. But the conference had been a very healthy step forward. First, the HKWDC was now in operation and the conference was an opportunity to hear about that first hand. Second, international collaboration was now firmly established, and the conference was part of that process. Third, transparency was growing among operators in the way they conduct their business and their business models, and this was important information for developers. At last there seemed to be hints that an eco-system of operators and developers was beginning to emerge. Finally, by this time next year it was to be hoped that international collaboration could be taken even further, including with operators and developers in the Mainland, and especially welcome in this context was the visit by the China VAS Association.
31. John expressed thanks to the sponsors, including the Mandarin Oriental Hotel, to **Dr Jenny Wan, research officer of the TRP** and her helpers, to **Terry Graham, research assistant at the TRP**, for his help with the Briefing Paper, and to **Norman Wingrove, TRP webmaster**. Upon the closing of the conference, over 100 delegates then traveled to Cyberport where they were met by **Nicholas Yang, CEO of**

Cyberport and **Mimi Ho,Microsoft** who sponsored the cocktail reception, followed by a site visit and product demonstration by developers at the HKWDC.