

香港特別行政區政府
政府資訊科技總監
辦公室



OFFICE OF THE
GOVERNMENT CHIEF INFORMATION OFFICER
THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION

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By email

13 February 2018

Mr Daniel SIN,
Clerk to Panel,
Panel on Information Technology and Broadcasting,
Legislative Council Complex,
1 Legislative Council Road,
Central, Hong Kong

Dear Daniel,

**Information requested at the meeting of
the Panel on Information Technology and Broadcasting on 11 December 2017**

At the meeting of the Panel on Information Technology and Broadcasting on 11 December 2017, Members requested for the report on promotion of e-sports development in Hong Kong submitted to the Administration by Cyberport. Please find the report attached at **Annex** for your reference. It has also been uploaded on to the websites of the Office of the Government Chief Information Officer (https://www.ogcio.gov.hk/en/news_and_publications/publications/doc/EN_e-sports_report.pdf) and Cyberport (http://www.cyberport.hk/files/5a8260c50c633354373178/EN_e-sports%20report.pdf).

Yours sincerely,

A handwritten signature in blue ink that reads 'Eva Yam' with a stylized flourish at the end.

(Eva YAM)

for Government Chief Information Officer

Annex : Report on Promotion of E-sports Development in Hong Kong
c.c.: Secretary for Innovation and Technology (Attn: Mr Ricky CHONG)

Report on Promotion of E-sports Development in Hong Kong

Executive Summary

E-Sports: An Emerging Sector

- ♦ E-sports is a short form for “Electronic Sports”, referring to computer games played in a competitive setting structured into leagues. It is similar to a professional sport as it comprises establishment of league and ranking tables, with professional athletes, training systems, commercial operators and sponsors. The professionalism of e-sports is sustained by professional athletes, teams with commercial operators and sponsors, international league tables, prize money, and rigorous training standards. The stakeholders include professional gamers, professional coaches, physiotherapists, team managers, sponsors, commentators, etc.
- ♦ A market analysis by NewZoo estimated that the global revenues of e-sports has reached US\$493 million in 2016 and is expected to grow to US\$696 million in 2017. Viewership is forecasted to grow to nearly 600 million by 2020. Another market analysis by SuperData even reported a total of \$892.8 million of revenue in e-sports globally for the year 2016. Asia has become the world’s largest gaming market with revenues totalling US\$328 million, as compared to North America with US\$275 million and Europe with US\$269 million in revenue. In general, Asia leads the global e-sports market because of the scale of e-sports industries in Korea and Mainland China.
- ♦ In Hong Kong, e-sports is an emerging new sector with rapid development in recent years, with high economic potential. A research by CityU found that there are more than 300 000 players in Hong Kong: 93% of e-sports players are men and 55% of all these players aged 18 to 21 years old. E-sports could benefit the Technology Media Telecom (“TMT”) industry. Multinational hardware vendors have dedicated product lines for e-sports hardware, e.g. ASUS, Logitech, NVIDIA, Razer and Samsung. Developing e-sports may also promote the growth of sectors such as tourism, hospitality, catering, retailing, entertainment and real estate.
- ♦ Whilst Hong Kong has an edge on certain nodes, more needs to be done in certain key areas. The following paragraphs set out our recommendations on how Hong Kong can develop e-sports, including vitalise e-sports events, empower the game industry, nurture e-sports talents, make e-sports a mainstream sport in society and build a positive public image. In addition, Cyberport will take steps to support the development of e-sports in Hong Kong.

Recommendations

- ♦ We **recommend** the following four strategies to promote e-sports development in Hong Kong: –
 - (a) to **vitalise e-sports events** by providing suitable venues by the private and public sectors, thereby facilitating the organisation of more e-sports activities, competitions and events. Well-located, affordable and dedicated venues reduce organisers' preparation time and optimise manpower, allowing events to be held more regularly;
 - (b) to **empower the game industry** by nurturing local e-sports start-ups, cultivating e-sports technology talents and organising e-sports industry conferences. More assistance could be provided to game developers to grow their businesses. Incubation facilities could be provided to budding game developers. The youth could also be engaged in the research and development of games, hardware and related technologies, with a view to becoming game professionals and technology experts in future. Besides, organising signature conferences in Hong Kong could be impactful for bringing the stakeholders together to exchange knowledge, attract talents and foster business;
 - (c) to **nurture e-sports talents** by providing training to professional and amateur players. As e-sports in Hong Kong is at an early stage, a progressive approach may be needed in training professional e-athletes, starting with the provision of well-equipped venues and facilities. It is worthwhile to leverage e-sports training organisations and the local tertiary academia to provide more structured, professional and accredited training with career orientation. The e-sports sector also has to identify a more structured path to discover and develop potential players through social partnerships with schools and student clubs; and
 - (d) to **make e-sports a mainstream sport and build a positive public image** by enhancing e-sports public education and launching e-sports experience corners. This requires concerted efforts by the government, industry players, academia and youth associations to provide the public with a more comprehensive understanding about e-sports. Industry players may also consider setting up some e-sports experience corners in Hong Kong so that the general public can get a taste of e-sports.

Roles and Initiatives of Cyberport

- ♦ Cyberport will take the initiative in collaboration with the industry to foster the development of the e-sports sector in the following areas –
 - (a) **set up a designated venue in Cyberport** for hosting regular e-sports activities and training. Cyberport would take the chance to review the existing broadband infrastructure to support professional live streaming for the e-sports competitions and events;
 - (b) **nurture e-sports technology talents** through leveraging its strength and partnership in grooming mobile e-sports game developers under Cyberport’s entrepreneurial and internship programmes; and
 - (c) **support industry development** through joining and supporting industry events, participating as a member of industry associations, etc.

Background

1. Noting the recent rapid development of e-sports in Hong Kong and other cities and its economic development potential, in the 2017-18 Budget Speech, the Financial Secretary invited Cyberport to study the latest technology and products development and explore further promotion of e-sports in Hong Kong. In April 2017, Cyberport commissioned CityU to conduct a research study to consolidate a more comprehensive view of the e-sports sector through engagement of a wide range of stakeholders.
2. During the study period, both Cyberport and CityU directly engaged with various stakeholders, including game developers, event organisers, industry associations, hardware vendors, supporting services providers, professional and amateur players, policy makers and the general public. The study utilised focus groups, interviews, online surveys and literature review to identify the views and needs of the stakeholders, and made suggestions on the possible actions conducive to the e-sports sector in Hong Kong. Taking into account the findings of the study, Cyberport presents in this report the basic concepts of e-sports, its global market potentials, the current e-sports situation in Hong Kong, its economic benefits for Hong Kong and a set of recommendations on how e-sports should be further developed in Hong Kong.

Basic Concepts on E-sports

3. E-sports is a short form for “Electronic Sports”, referring to computer games played in a competitive setting structured into leagues, in which players “compete through networked games and related activities” (Jin, 2010¹; Taylor, 2012).
4. The activity of playing e-sports closely resembles ‘traditional’ computer gaming, especially to a non-specialist audience. However, the establishment of local, regional, and global league and ranking tables, and the professionalism involved in all aspects of the phenomenon, sets e-sports apart from simply playing computer games.
5. E-sports has many similarities with traditional sports, such as having professional athletes, teams with commercial operators and sponsors, international league tables, prize money, and rigorous training standards.
6. A significant difference between e-sports and traditional sports is that in e-sports, the platform for the e-sports activity is proprietary. In e-sports, the company owning the intellectual property rights to the game can charge fees, or change the rule of the game anytime they like. E-sports operates with proprietary tools, and the Intellectual Property (“IP”) owners have the right to alter the terms of play and impose royalty anytime they like.

¹ Dal Yong Jin (2010) "Korea's Online Gaming Empire | The MIT Press." <https://mitpress.mit.edu/books/koreas-online-gaming-empire>. Accessed Jun 30, 2017.

7. To those e-sports advocators, e-sports is regarded as a socially acceptable and possibly “healthy” form of computer game play.

8. E-sports players take the activity very seriously and are personally very invested in self-directed learning and innovation, logical analysis and deep understanding of the games they play (Choontanom & Nardi, 2012).² Every professional player has his/her own training plan, combining both mental and physical training. E-sports also offer opportunities for experiences such as success and self-worth, and kinds of social bonding, such as team spirit (Jenkins, 2016).³ E-sports could potentially bring computer gaming from the private and uncontrolled sphere to the public controlled sphere within which youth benefit from the support network of senior/adults, such as coaches and trainers and peers alike.

9. On the other hand, e-sports has sometimes received criticisms for wasting time on an addictive activity with no financial or academic value. E-sports players often face pressure from parents and teachers and that both parents and teachers leave little leeway for e-sports training.

10. E-sports globally has developed into a comprehensive value chain which comprises key components on both supply and demand sides.

11. On the supply side, this includes the business activities around *content owners/providers* (game developers, IP owners, game publishers, IP licensees); *event organisers* (leagues, tournaments, playoffs), *media/platforms* (media companies, streaming technology companies); *commercial brands* (sponsors, advertisers); *supporting services* (training schools, coaches, commentators/casters); *hardware/peripheral vendors*; and *merchandisers*.

12. On the demand side, this includes *players* (amateur players, professional players, retired players, semi-professional teams, professional teams), and also *audience members*.

Global Market Potentials of E-sports

Market Size

13. A market analysis by NewZoo estimated that the global revenues of e-sports has reached US\$493 million in 2016 and is expected to grow to US\$696 million in 2017, and US\$1.5 billion by 2020. Another market analysis by SuperData even reported a total of \$892.8 million of revenue in e-sports globally for the year 2016.

² "Theorcrafting the Classroom *Constructing the Introductory Technical Communication Course as a Game* - Mar 24, 2015 - SAGE Journals." <http://journals.sagepub.com/doi/abs/10.1177/0047281615578846>. Accessed Jun 12, 2017.

³ Jenkins. H. (2006). "Complete Freedom of Movement: Video Games as Gendered Play Spaces." In *The Game Design Reader. A Rules of Play Anthology*. K. Salen & E. Zimmerman (eds.), Cambridge, MA: MIT Press. ISBN: 978-0262195362.

Asia has become the world's largest gaming market with revenues totalling US\$328 million, as compared to North America with US\$275 million and Europe with US\$269 million in revenue. In general, Asia leads the global e-sports market because of the scale of e-sports industries in Korea and Mainland China.

14. Among many e-sports game titles, League of Legends (LoL) and Defense of the Ancients 2 (DOTA 2) are the two most popular e-sports games in the world. LoL is played by about 12 million gamers from more than 145 countries daily. LoL tournaments had a prize pool of about US\$2.13 million in both 2014 and 2015. DOTA 2 had 10.3 million monthly active users in 2015, and by 2016 the number had grown to 13 million. DOTA 2 tournaments maintain the largest prize pools in e-sports globally: The International 2016, an annual DOTA 2 e-sports championship tournament hosted by the game's developer, had US\$20.7 million in prizes; The International 2015 had US\$18.43million; and The International 2014 had US\$10.9 million.

Viewership and Events

15. E-sports draws a large number of viewers online to watch a broadcast of tournaments or through either the official websites or on livestream/video on demand providers' sites, as well as spot audience at one-off events. The global e-sports audience, including both occasional viewers and enthusiasts, reached 323 million in 2016 and is expected to grow by 20% to 385 million in 2017. The audience is forecasted to grow to nearly 600 million by 2020. Notable e-sports events (e.g. BlizzCon, Intel Extreme Masters, League of Legends World Championship) organised by event organisers or game developers are widely distributed in different parts of the world, such as the US, Europe, Japan, Korea, Taiwan and Mainland China.

E-sports in Hong Kong

A Short E-sports History

16. E-sports has a rather short history in Hong Kong. Hong Kong Esports Ltd. ("HKEsports"), founded in 2013, established the first e-sports team called Hong Kong Attitude which combined Hong Kong and Taiwan players in team. The first Hong Kong e-sports tournament was held in August 2013 with a spot audience of 500 people. The first Hong Kong e-sports qualifying match happened between 2014 and 2015, with over 500 teams participating and over 500 000 online concurrent viewers. The prize pool of this match was HK\$150,000. In 2016, the tournament of The League of Legends Masters Series ("LMS") attracted a spot audience of 3 000 and over 600 000 online viewers. It is possible to infer from the data that audience numbers and prize pools of e-sports events in Hong Kong are gradually increasing.

The Size and Shape of the E-Sports Community

17. The CityU research found that the Hong Kong e-sports sector, despite its short history, has attracted more than 300 000 players. It has surveyed nearly 1 000 e-sports audience and players, and found that 93% of the surveyed e-sports players are male. Most of them are young adults, with 55% aged 18 to 21 years old, 30% aged 15 to 17 years old and 4% aged 13 to 14 years old. Nearly 50% of the e-sports players are at senior secondary education level, while the rest are at diploma (18%), Bachelor's Degree (16%), junior secondary (9%), Associate Degree (6%), Master's Degree (0.7%) and primary education (0.3%) levels.

18. Additionally, through consultation with active e-sports players, who are affiliated to a gaming association, we found that 91% of players had played LoL, making it the most popular e-sports game. That is followed by Counter-Strike: Global Offensive (CS:GO) with 72% of players (See Figure 1). Nearly 90% of LoL players have at least six months of playing experience and 30% of them have more than five years of playing experience. The surveys showed that Hong Kong LoL players have attained good rankings - 4% of them are at the Challenger tier representing the top 0.02% of LoL players, and 2% are at the Master tier.

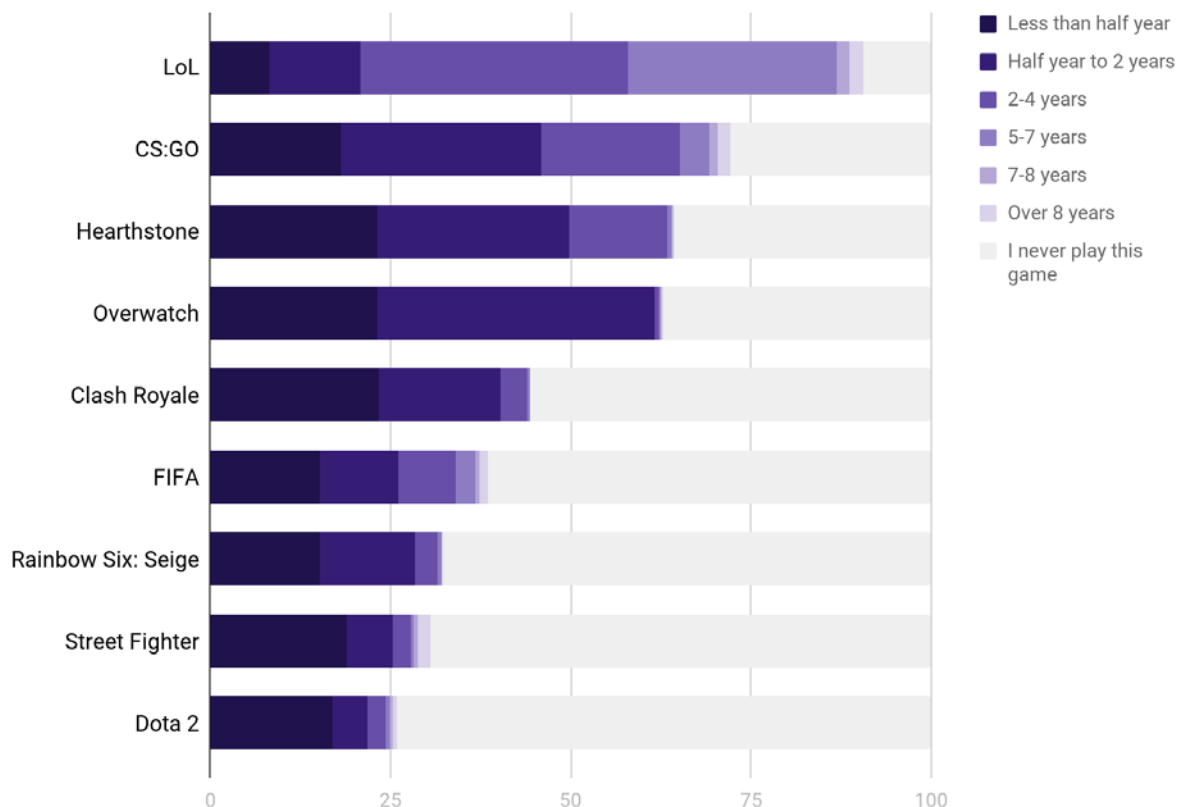


Figure 1: Popular e-sports games in Hong Kong

19. Also, e-sports is a social activity. For instance, 67% of the surveyed e-sports players have practiced with friends or joined teams. Among these teams and practice partnerships, 77% were established in or after 2013, and 28% were established in or after 2016. For all players in the CityU research, 25% participated in at least one kind of formal e-sports competition, and 19% of them had participated in competitions within school or at a community level (e.g. CityU Hall Tournament) which may not be publicised. Some 7% of them participated in national tournaments (e.g. HKEsports) and 1% participated in international tournaments (e.g. League of Legends World Championship).

Yet-to-be Established E-sports Sector

20. Along the aforesaid e-sports value chain, Hong Kong has an edge on certain nodes. However, it is inadequate in some aspects. Local game developers pointed out that Hong Kong's e-sports sector does not have certain elements of a well-developed e-sports sector: some roles, such as professional gamers, venues for competitions, professional coaches, physiotherapists, team managers, business developers, sponsors, commentators and event organisers, are only partially filled.

21. To the local gaming industry (even in some regions where e-sports has been more popular, e.g. Taiwan), many e-sports businesses are not profitable. Event organisers observed that the current Hong Kong e-sports viewership had been dominated by one single game (i.e. LoL), with a market share between 60 and 70%. That said, although it has the largest number of viewers across all e-sports games both globally and in Hong Kong, LoL's prize pool is smaller than that of many other games. In Hong Kong, LoL's online viewership can range from 1 000 for small events to 13 000 for large global events.

22. Corporate sponsors (e.g. beverage companies, broadband network) are very important to event organisers for covering partial costs in organising high-quality e-sports events, in terms of cash or equipment (e.g. mice, keyboards, computers). The organisers mentioned that these companies understood e-sports, and thus it was easier to seek sponsorship from them. However, the organisers noted that there were not many of such companies in Hong Kong, and therefore the sponsorships provided were seldom enough to cover cost, resulting in most e-sports events making losses. Furthermore, the market has been dominated by larger organising companies, making smaller organisers difficult to seek funding from local corporate sponsorships, and compete for larger-scale events to make a profit.

23. Hardware suppliers can also be potential beneficiaries of the e-sports sector in Hong Kong. Razer Inc. is a case in point. Razer, a professional gaming peripherals manufacturer founded in San Diego in 2005, has been driving the e-sports industry with its sale of hardware like mice, keyboards and laptops, sponsorship on e-sports events, as well as sponsoring professional e-athlete teams for international leagues, and so forth. It recently successfully raised more than US\$50 million from Horizons Ventures. The company envisions huge opportunities to disrupt the mobile market with mobile device or software platform that fulfils the needs of the mobile gamers.

Razer formed a partnership with mobile telecoms and internet service provider Three Group to offer tariff plans, services and devices to gamers around the world, and also opened the sixth RazerStore in Hong Kong in June 2017. Its digital currency, zGold, and other gaming products are transacted over the Three Group platform. Companies alike are not only a positive sign of the growing e-sports sector in Hong Kong, but also bringing concrete economic values to different aspects of the sector.

24. Event organisers reckoned that Hong Kong needs more well-located and affordable venues with good infrastructure. The main requirements for these venues are a location easily accessible to the majority of players, with adequate facilities for audience, relevant sound and light equipment, information technology (“IT”) infrastructure and low-latency high-bandwidth Internet connectivity. Currently, most of the events organised within Hong Kong are of small scale, involving 200 to 300 attendees and 50 to 60 players. Large scale e-sports events in Hong Kong roughly cost between HK\$5 million to HK\$20 million, and there have been no more than four large scale events. Organisers always spend most of the budget on prizes, lighting and sound equipment, and sometimes commentators.

25. The game developers noted that Hong Kong does not currently have the talent pool of computer game developers who are skilled enough to develop an international e-sports title. The e-athletes noted that a major issue with e-sports training among Hong Kong youth is that the players did not have a training regime with training taking place informally: they started practising among friends; there was neither training method, analyst to examine their training needs nor any kind of coaching. These players had arranged to train when they were not constrained by schoolwork and not subject to family pressure. Many aspiring young e-athletes train alone and outside the support network of knowledgeable adults because the e-athletes faced constant pressure from the society in which the majority considers academic achievement the top priority and typical pathway for jobs with higher earnings. With such cultural tradition, family and teachers could leave little leeway for e-sports training.

26. The e-athletes indicated that e-sports players’ salary varied significantly in Hong Kong, with international-level talents earning around HK\$60,000 per month. Meanwhile, a professional e-athlete, who was an international-level champion in the past, is earning more than HK\$10,000 per month. Some other junior e-athletes are merely earning a basic salary of HK\$3,000 per month.

27. The current local e-sports sector could not enable long-term careers for e-athletes. The e-athletes indicated their awareness of the relatively short career path of a professional e-athlete. Many e-sports players retire in their mid-twenties. In some regions, it is common for players to move on to become coaches, commentators, game analysts, bloggers, and so forth. Due to the difficulties of organising e-sports events in Hong Kong, however, such opportunities for local e-sports players to move onto these career pathways are scarce.

Benefits of E-sports to Hong Kong

28. E-sports is a derivative from the game industry, integrating elements of technology, media, entertainment as well as professional sports. It is observed that e-sports has become a new economic driver far and near, e.g. in the US, Mainland China, Korea, Taiwan and Europe. All these places have already engaged in some notable direct and indirect economic activities, such as large-scale competitions and sponsorships. The income sources of the industry are built around an extensive community both on-line and off-line, with a large crowd of fans in support of their e-sports celebrities (i.e. e-athletes, casters). Some places have also benefited from games development and technological advancement.

29. The industry players believe e-sports in Hong Kong is a sunrise industry with its market size and economic importance set to bloom in the next few years and Hong Kong could harness its economic potentials in the long run. The following section describes some key areas of potential benefits in developing e-sports in Hong Kong with reference to successful examples worldwide.

Benefits to the “TechnologyMediaTelecom (TMT)” industry

30. E-sports activities involve a lot of digital technologies in the process of broadcasting backed by a variety of professionals in the innovation and technology (“I&T”) sector as well as the creative industry. While the e-sports game per se is a software, hardware like monitors, keyboards, mouses, graphics cards and chip sets are also necessary to integrate with the software for top-notch performance. Many multinational hardware vendors have dedicated product lines to manufacture hardware for e-sports, e.g. ASUS, Corsair, DELL, HP, Intel, Lenovo, Logitech, MSI, NVIDIA, Razer and Samsung, etc.

31. Streaming technologies enabled e-sports to reach out to a huge borderless online community seamlessly and also fostered real-time interaction among players and audience. YouTube and Twitch are the two most popular online communities for e-sports content live streaming worldwide. Platforms as such give professional commentators, anchors and YouTubers huge exposure. In Hong Kong, tech companies specialized in streaming technologies may explore business opportunities in supporting local events and tournaments. Furthermore, the local commentators, anchors, casters and YouTubers can ride on the popular streaming platforms to earn substantial income.

32. E-sports also requires high-speed and stable network for access to the game servers distributed in different parts of the world, which could be most important to contestants participating in competitions. The local ISP and telecommunications companies provide dedicated lines and bandwidth to ensure quality services throughout e-sports content transmission. Moreover, on-site e-sports activities offer sensational digital entertainment experiences which require a combination of premium stage design and effects, as well as control systems in order to create a favourable ambience. Expertise in sound engineering, lighting, music composition, animation,

copywriting, etc., makes e-sports events more sensationally appealing and engaging to both players and audience.

Benefits to the e-sports related industries

33. The prospering of e-sports could potentially benefit e-sports related industries. According to the Hong Kong Digital Entertainment Industry Survey conducted by the Hong Kong Digital Entertainment Association and published in May 2017, there were about 108 companies with gaming as major business in Hong Kong. The game industry has a higher revenue and profit than other digital entertainment industries. The main reason is that the industry has successfully transformed from the development of computer games to online games, and then to mobile games. Therefore, opportunities are abundant for Hong Kong game companies to harness the huge potential of e-sports through developing mobile games.

34. Similar to other sports games, merchandising of e-sports related items can make a very profitable business. The merchandises are not only derived from the game characters, but also from the e-sports teams, such as the celebrity team members, team logos and photos. The world's largest e-sports event company, ESL, has been selling a great variety of items, such as tees, caps, cups, jackets, pins and bags. Popular games in Hong Kong earned revenue from merchandising on top of the games themselves. For example, the game “果寶三國” has manufactured a series of robots for its characters. It is imaginable that more e-sports games in Hong Kong can generate extra income from merchandising of their IPs.

35. Yinchuan, the capital of the Ningxia Hui Autonomous Region in the Mainland, positioned e-sports as a strategic industry to drive the economy, with a vision of establishing itself as a “Capital of E-sports”. Since 2014, the Yinchuan government established a company to take over the right from Korea to organise the World Cyber Arena (“WCA”) competition. The Yinchuan government envisioned that e-sports could tremendously benefit other industries, such as big data, and therefore invested in setting up a data centre. They also made use of e-sports to stimulate its tourism. In the first half of 2014, the number of visitors to Ningxia was 6 million, who had spent a total of RMB 5.1 billion. More than half of the revenue was contributed by Yinchuan. The blooming of e-sports there led to an apparent growth in sectors such as tourism, hospitality, catering, retailing, and entertainment and real estate.

36. The Tourism Board hosted a three-day “E-sports & Music Festival Hong Kong” in August 2017, featuring international players competing in LoL and top K-pop stars, and aiming at attracting young visitors to Hong Kong. The local industry players are optimistic towards the benefits to be brought by organising world-class e-sports events to other industries in Hong Kong.

Recommendations on Promotion of E-sports Development in Hong Kong

37. As indicated above, Hong Kong's e-sports sector has more than 300 000 players. The CityU research suggested that with properly aimed support this sector could be significantly boosted. Some regions, most notably Taiwan, Korea and Mainland China, are well ahead of Hong Kong in terms of the development of their e-sports sector. It is important that a coordinated strategy be put in place not merely to support organic growth, but also to find ways to support the sector to "leapfrog" over some stages of development, and to take pre-emptive actions to prevent known threats over the course of development. The following recommendations are proposed to promote e-sports development in Hong Kong from four different perspectives, namely vitalising e-sports events, empowering the game industry, nurturing e-sports talents and making e-sports a mainstream sport in society.

Vitalising e-sports events

Providing e-sports favoured venues

38. Various e-sports stakeholders spelled out the need for competition venues which are either dedicated to the purpose or easily transformable into e-sports competition venues, and also to cater for e-sports events of different scale. It is seen that neighbouring regions like Taiwan and South Korea have plenty of venues for entertaining large or small scale events. As a matter of fact, there are decent venues in Hong Kong which are easily transformable for serving some one-off or on annual basis large-scale events that house thousands of audience on-spot. The e-sports event organisers were satisfied with the size and the facilities of venues like the Hong Kong Convention and Exhibition Centre, the AsiaWorld-Expo, the Kowloonbay International Trade & Exhibition Centre (KITEC), and the Hong Kong Coliseum, etc., but rental and setup costs were their concerns.

39. Apart from the venues for some infrequent large-scale events, e-sports event organisers would like Hong Kong to have more well-located, affordable, and dedicated venues with good infrastructure. Currently most of the events organised in Hong Kong are smaller in scale, involving about 200-300 attendees and 50-60 players. It is known that the major advantage of a dedicated venue is the reduction of preparation time and manpower needed to set up the site for e-sports competitions, thereby allowing organisers to hold events more regularly. These venues have to be properly furnished with premium audio-visual facilities, low-latency high-bandwidth internet connectivity, stage effect systems, live cast equipment, stage and seats. The venues may be operated by the event organisers who have expertise in running regular e-sports events and competitions.

40. Indeed, there are more e-sports themed small-sized venues opened in different districts of Hong Kong recently, e.g. in Cheung Sha Wan, Kowloon Bay, Kwun Tong, for the e-sports players, gamers or lovers to challenge each other, to join in challenges, or just for hangout. The e-sports stakeholders believed that more and more similar e-

sports venues being set up in different districts in the city would help meet the needs of participants in close proximity. More regular e-sports activities would provide more opportunities to e-sports players to improve their skills and competence, and would enhance the overall capability and also capacity of e-sports in Hong Kong.

41. The commercial sector, particularly the land developers, may be able to provide more venue options, such as shopping malls, or revitalising idle or old industrial buildings. Apart from the venues owned by the private sector, some public venues are also suitable for organising e-sports events. The Government should consider giving special consideration to venue bookings from e-sports organisations, similar to other local sports associations.

Organising regular e-sports activities

42. In order for the aforementioned stakeholders in Hong Kong to emerge and mature, local e-sports can begin by organising more regular small-scale events, as well as co-organising existing major e-sports events. Small-scale events are necessary to prepare professionals to compete in, commentate, organise, and market larger-scale professional and commercial events in future. As the stakeholders like players and organisers build up, the local e-sports community would be strengthened and help develop the sector. E-sports leagues could be run in a more structured manner in order to converge with the international leagues.

43. Meanwhile, more regular events may help educate small- and medium-sized enterprises about the value of e-sports since a large number of youth and young adults watch these events regularly. These companies have to become aware that e-sports is a new media, which may open up the advertising market for local e-sports. It could also be a good attempt to co-locate e-sports events with other related events, such as comics or computer hardware fairs, in order to gain exposure to the general public.

Organising heavyweight e-sports competitions and events

44. Except for a few, most of the e-sports events conducted in Hong Kong so far are of smaller scale (see the event list at Annex). Nonetheless, Hong Kong has a pool of local professionals and infrastructure for organising large scale non-e-sports meetings and conventions, as well as in traditional media broadcasting. Riding on this, Hong Kong can seek more opportunities in organising large-scale professional “signature tournament” at the international level e.g. WCA, E-sports and Music Festival Hong Kong, to help establish Hong Kong as one of the global e-sports hubs. This will attract top-notch players, experts, vendors, license owners and event organisers to Hong Kong and create a strong impact favouring the overall atmosphere that supports e-sports in the society. It is also beneficial to enhancing the cohesion of the local e-sports community, as well as encouraging e-sports professionals to stay locally within the industry. Furthermore, the e-athletes believe this could help develop a sense of community and create a momentum when they come together to compete with each other, getting ready to attend tournaments overseas.

Empowering the game industry

Nurturing e-sports start-ups of local games

45. The voices from the industry about supporting the local game industry are clear. It is of utmost strategic importance to provide an incubation environment for the local game developers to create more games for the e-sports arena. The Hong Kong game developers are fully aware that producing a local e-sports game with global player-base and wide popular appeal, like LoL and DOTA 2 is perhaps less likely to happen. Having said that, it may be more realistic to assume that “smaller” games, which nevertheless have some appeal, could be developed in Hong Kong. Hong Kong has quite a number of mobile game developers with some popular game titles at regional and global levels, e.g. Dynamix, “果寶三國” and Tower of Saviors. Local game developers could engage in making e-sports type games for the market. Clash Royale, a globally popular mobile game with some competitive tournaments, could be a role model.

46. To jumpstart, game developers may make effort to create mainstream game types of various international matches, including (1) Combat; (2) First Person Shooter; (3) Multiplayer Online Battle Arena; (4) Sports; and (5) Card Games. Local game developers should aim to target areas which are niche globally and also popular in Hong Kong. In this regard, Hong Kong may explore creating a mobile e-sports games platform which could offer both monetary and non-monetary incentives to game developers, for example, industry-wide awards and tournaments featuring local game titles.

47. To enhance Hong Kong game companies’ ability in developing their own e-sports games, more assistance should be provided to game developers to enable them to be more business oriented and assist them in building up business partnerships through educational and training programmes. Business nurturing programmes should be in place to offer funding support, training opportunities, marketing and promotion support, as well as business development support for local game companies to prepare them to progress from a start-up to an e-sports game company in the long run. On this front, it is possible for incubation facilities to incubate more game developers to produce popular e-sports game titles.

Nurturing e-sports technology talents

48. E-sports is relatively new and the CityU study has elicited that the players are of a younger generation than the majority of the current game developers. To the game developers, promotion of e-sports entails an opportunity to galvanize youth participation so as to nurture Hong Kong’s future game development talents. Computer game professionals often develop deep understanding of computer games through many years of studying about the game mechanics and engaging with the player communities. Through the process of learning e-sports, the youth could discover their interests and talents in relation to e-sports, with a view to becoming game professionals and technology experts in future.

49. Through promoting e-sports, it would also be possible to help educate the public that computer gaming has intellectual and occupational dimensions. As mentioned above, the e-sports sector has created a strong demand for young talents in different job positions in the I&T industry. Young people could be engaged in game development, as well as the research and development of hardware and related technologies, e.g. video streaming, live broadcasting, animation production and sound mixing.

50. Overseas game developers see Virtual Reality (VR) gaming as a key element in the next generation of e-sports. VR could make e-sports more like a true “sport” by introducing spatial experience. A few local game developers have envisioned this trend and have already developed trial versions of VR games, such as The Hong Kong ICT Awards 2017 winning entry “The Hopping Dead”. Hong Kong game start-ups can explore further the potential of VR and prepare themselves by acquiring more technical knowledge in this area.

51. It is also possible for the local tech companies with strong big data analytics background to render professional data services to e-sports game companies. Game companies have been trying every means not only to attract players, but also retain a high level of interest in the games they are creating. They have examined the huge wealth of gaming-related data, i.e. big data, to understand the interests, habits and tendencies of the target audience. Sophisticated game companies use this kind of “massive data trail” to promote other products, services and items players may be interested in. Some game companies use big data to upsell or cross-sell. There is also evidence of developers using the information to improve the experience offered to gamers. Some gaming brands and websites use the data generated by gamers in conjunction with internal information to develop insights into how people interact with their games. In addition, in the course of e-sports competitions, a large volume of gaming data is generated and the organiser may capture it for further analysis. In this regard, it is possible for local tech companies with strong big data analytics background to render professional data services to e-sports game companies.

52. A jump-start approach to nurture e-sports game development talents could be to enhance industry-supported internship opportunities. Since 2011, the Hong Kong Digital Entertainment Association (“HKDEA”) has organised a “Hong Kong Digital Entertainment Industry New Graduate Support Scheme” to enable digital entertainment companies to hire graduates to work as interns. HKDEA indicated a possibility to launch another internship arrangement soon, with a view to foster the formation of e-sports teams among game developers. Similarly, the e-sports related companies in Hong Kong can provide a wide range of internship opportunities for the youth to gain solid working experience, e.g. game development, technical support, streaming technologies, media platform, hardware engineering. As a result, the internship may facilitate more youth to understand the industry deeper and launch a career with a vision in e-sports.

Organising e-sports industry conferences

53. Currently, it is seen that some globally signature industry e-sports conferences, e.g. eSCon US, eSCon Europe, Biz eSports Summit, and eSports Conference, are all held overseas rather than in Hong Kong. While introducing these conferences to Hong Kong is possible, organising international-level conferences tailored for the local industry deserves due consideration. Such kind of signature industry conferences running on a periodic basis would be impactful occasions for bringing local industry players together to exchange knowledge, attract talents and foster business.

Nurturing e-sports talents

54. The e-sports sector not only needs talents in game development, but also talents for professional matches. As e-sports in Hong Kong is in an early stage, a progressive approach may be needed in training professional e-athletes, starting with provision of well-equipped venues and facilities. These venues and facilities, equipped with relevant IT infrastructure, would be able to motivate e-athletes to meet frequently for training.

55. It is worthwhile for the sector to leverage on e-sports training organisations and the local tertiary academia to provide more structured, professional and accredited training with career orientation, resembling an undergraduate degree programme being offered at a university in the United Kingdom⁴, to train up aspired youth to become professional players to compete in international and regional competitions. Local tertiary institutions may explore offering industry accredited diplomas and certificates in various aspects, including game development, e-sports battling, broadcasting, commentary and event organisation.

56. Some industry players suggested establishing a territory-wide junior squad system for e-sports in Hong Kong, like the Youth Football Development Programme funded and executed by the Hong Kong Jockey Club. Such a system will provide a clear progression ladder for the youth to climb step by step, from interest cultivation to capacity building and eventually to pursuing a career. Given the rather short career-span of e-athletes from age 17 to 25, veterans can be recruited as coaches to train the next generation of e-athletes with their valuable experience.

Developing amateur players

57. Professional players are not in-born. Amateurs can be turned into professionals through comprehensive training. Strategically, the sector has to identify a more structural path to discover potential players in order to grow them to the next level for joining e-sports competitions of regional and global ranked league tables. Competitions and events could be a means to identify more competent and committed

⁴ Staffordshire University offers a Bachelor of Arts in Esports Programme. It focuses on the business of e-sports, such as hosting events and competitions, creating business plans for developing teams, creating online communities and digital marketing, etc.

amateur players. While the training institutions and the industry associations can scout and train aspiring players themselves, they could also develop social partnerships with schools and student clubs. They may work with student-oriented associations, such as the Hong Kong Student Esports Association (formerly known as Hong Kong Federation of Students' Electronic Sports, "HKFSES") and the Hong Kong Joint-School Electronics and Computer Society, to access a larger pool of potential youth. For example, the 2nd Joint-School Esports Competition organised by the HKFSES was joined by more than 100 teams from 25 secondary schools. Specially-designed programmes could be organised for those e-sports receptive schools in order to attract their students to the more sophisticated e-sports training. It is also advised to drive and support the schools to build their own school teams for regular inter-school competitions.

Making e-sports a mainstream sport and building a positive public image

Enhancing e-sports public education

58. The popularity of e-sports is a function of the level of public education with concerted efforts by government departments, industry players, academia and youth associations to provide the public with a more comprehensive understanding about e-sports. Certain stakeholders are worried about possible negative effects on the youth, e.g. addiction, physiological damages and social isolation. In this connection, the associations will not only uphold the economic values of this emerging sector, but also the career prospect and the benefits of personal development potentials throughout the engagement of e-sports, e.g. building self-confidence, team spirit and pursuing a sense of excellence. [Positive public image of the e-sports profession could be built by instituting the best practices for the development of players while avoiding addiction. Organising more e-sports events and knowledge-sharing sessions may help relieve the anxiety of the concerned, e.g. teachers and parents.

Launching e-sports experience corners

59. Apart from setting up dedicated e-sports event venues, industry players (e.g. Razer, Three, Cyber Games Arena, Hong Kong Esports, JetOne) may consider to build up some e-sports experience corners in different parts of Hong Kong, so that the general public can get a taste of e-sports. These experience corners may feature e-sports games, local games, computer peripherals, gaming tools, Augmented Reality (AR)/VR technologies, and promote games, e-athlete celebrities, and YouTubers, etc.

60. In a longer term, the experience corners may further develop into e-sports experience centres or complexes combining e-sports competition/tournament arena with commercial vendors, training academies and restaurants.

Roles of Cyberport in the Promotion of E-sports in Hong Kong

61. As elaborated in the above sections, e-sports is a blooming sector branching out from the I&T industry. Cyberport has been endeavouring to establish a digital ecosystem for Hong Kong by inspiring the youth, nurturing start-ups, and empowering entrepreneurs for global connection, and is prepared to join hands with the industry players to foster the development of the e-sports sector. More importantly, Cyberport considers that a well-developed e-sports sector will possibly bring great economic and social benefits to the digital ecosystem as a whole and therefore is prepared to foster the growth of the e-sports industry in its infancy. The following are some areas in which Cyberport can play a role with reference to its public missions.

Providing e-sports favoured venues

62. Cyberport will consider making available space at Cyberport to be used as a designated area for hosting regular e-sports activities and also for training. The designated venue in Cyberport would particularly favour organising small to medium-sized events, from tens to two or three hundred participants. The space shall be furnished with advanced computers and peripherals, high-speed and stable Internet connection, premium audio-visual and broadcasting systems, lighting & effect, so as to create a favourable arena to e-sports players, no matter amateur or expert, to battle with each other. Cyberport would take the chance to review the existing broadband infrastructure to see how to support live streaming the e-sports competitions and events in a professional manner. In the meantime, the venue equipped with necessary e-sports facilities could be used by partnering e-sports training service providers for providing professional training to e-athletes, amateur players, as well as prospective workers in the e-sports industry. The space may be offered to different users at concessionary rental. Cyberport companies in e-sports related businesses may take advantage in using the venue for running their own e-sports activities.

Nurturing talents for the e-sports sector and the game industry

63. Cyberport has fully developed entrepreneurial programmes to nurture the youth and start-ups from ideation to incubation through maturity. A roadmap is set under these programmes for the start-ups to grow step by step. As explained above, mobile e-sports could be an entry point for the Hong Kong game developers to jumpstart. Cyberport may put more efforts in nurturing game developers in this area. By nurturing new gaming technologies such as AR, VR, Mixed Reality and holographic technology, Cyberport can build up a community to gradually develop e-sports games in the future.

64. Cyberport is one of the public organisations with extensive experience in running internship programmes (i.e. Cyberport Digital Tech Internship Programme), and thus could work with local and overseas industry practitioners to offer placements with systematic training. The placements could be on game development, game design, data analytics, animation, sound engineering, etc.

Supporting industry development

65. With reference to some more mature e-sports markets, such as South Korea, Taiwan, United Kingdom and so forth, an industry association could accelerate the process of collaboration among local businesses through involving diverse groups of stakeholders (e.g. companies, for-profit and non-profit organisers, volunteers, and players). Indeed, local industry stakeholders recognise that industry association in Hong Kong would help build multilateral relationship with the government and the industry practitioners to foster mutual understanding for long-term sector development, and develop strategic partnerships both locally and internationally. Cyberport would be pleased to become a member of e-sports associations to work more closely and strategically with the industry to continue shaping the direction of the e-sports development in Hong Kong and the region. Cyberport would actively provide resources to support or join the activities organised by the associations, such as trade shows, signature tournaments, seminars, and training sessions, etc.

66. As a digital hub of the region, Cyberport would put effort into promoting e-sports technologies (e.g. streaming, VR/AR/MR, etc.) that would facilitate industry development to a wider public audience, by means of organising conferences/seminars/talks, coordinating with industry partners to offer training sessions, showcasing latest technologies, supporting industry partners to organise intercollegiate games, championships and other competitions.

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Example of E-sports Events in Hong Kong

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人數 On-spot Audience	在線觀眾人數 Online Audience
The 2nd Joint-School Esports Competition	香港學生電子競技總會 Hong Kong Federation of Students' Electronic Sports	2017/07/15	Function Rooms, Cyberport	100+	200+
Pokemon VGC HK Open 2017	Hong Kong Pokemon Alliance	2017/06/11	Function Rooms, Cyberport	195	Nil
SHERO 英雄聯盟國際女子邀請賽	Cyber Games Arena	2017/03/26	Function Rooms, Cyberport	100+	Nil
NBA 2K17 亞洲盃香港區資格賽	Cyber Games Arena	2016/12/03 - 2016/12/17	Toysoul 2016(九龍灣國際展貿中心)	800	Nil
網上行英雄聯盟世界賽	Cyber Games Arena	2016/10/30	The Wave 9/F	300	Nil

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人數 On-spot Audience	在線觀眾人數 Online Audience
決賽直播派對 2016					
Zotac 10YR Anniversary World Cup	Zotac	2016/10/24 - 2016/10/25	香港美麗華酒店 18 樓宴會廳	500	Nil
第一屆香港電子競技大專盃	Hong Kong Esports	2016/08/30 - 2016/08/31	香港九龍灣國際展貿中心	Nil	Nil
LMS 夏季總決賽香港站	Garena / Hong Kong Esports	2016/08/21	香港亞洲國際博覽會 – Runway 11	3,100	600,000
E-Sports Festival HK 2016	Cyber Games Arena	2016/08/19 - 2016/08/22	香港會議展覽中心一號展覽廳 展位編號 Hall 1A	48,000	Nil
PS4 學校霸王校際盃	Play Station	2016/07/31	香港動漫節(香港會展覽中心)	700	Nil
ESport JSC (Joint-School Competition)	香港學生電子競技總會 Hong Kong Federation of	2016/07/02	九龍灣 MegaBox	Nil	Nil

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人 數 On-spot Audience	在線觀眾人數 Online Audience
	Students' Electronic Sports				
Rainbow Six Siege Hong Kong League	Cyber Games Arena	2016/05/21	CGA Studio	800	Nil
香港爐石爭霸賽	HKHS x MTGamer	2016/04/30	旺角 i-ONE 旗艦店	Nil	Nil
第一屆香港大專電子競技聯賽	R.Evolvers & 香港爐石公會 HKHS	2016/04 - 2016/09	香港中文大學 邵逸夫堂	500	Nil
2016 英雄聯盟校際盃 – 港澳區總決賽	Hong Kong Esports	2016/03/20	陽光網絡旺角總店	Nil	Nil
電競迷理大爐邊聚會	Gameholic HK 電競迷	2016/02/27	PolyU	Nil	600,000
ECS 菁英挑戰聯賽	Hong Kong Esports	春季賽 - 2016/02/20 - 2016/05/08	Online	N/A	Nil

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人數 On-spot Audience	在線觀眾人數 Online Audience
		夏季賽 - 2016/06/18 - 2016/08/28			
FIFA 16 中港挑戰賽決賽	Play Station	2015/12/19	Toysoul 2015(九龍灣國際展貿中心)	600	Nil
協青電競迷邀請賽	協青社 / Gameholic HK 電競迷 / 香港學生電子競技總會 Hong Kong Federation of Students' Electronic Sports	2015/11/29	協青社	Nil	500,000
網上行 10G 光纖第三屆香港電子競技總決賽	Hong Kong Esports	2015/08/29	香港九龍灣國際展貿中心 – Rotunda 3	2,700	Nil
E-Sports Festival HK	Cyber Games Arena	2015/08/21 -	香港會議展覽中心 HALL 1B	32,000	100,000

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人 數 On-spot Audience	在線觀眾人數 Online Audience
2015		2015/08/24	A15		
2015 英雄聯盟校際盃 – 港澳區總決賽	Hong Kong Esports	2015/05/19	陽光網絡旺角總店	200	500,000
香港電子競技資格賽	Hong Kong Esports	冬季賽 - 2014/10/25 - 2015/01/27 夏季賽 - 2015/02/28 - 2015/07/05	Online	N/A	200,000
第二屆香港電子競技總 決賽	Hong Kong Esports	2014/08/30 - 2014/08/31	香港九龍灣國際展貿中心 – Rotunda 3	2,000	Nil
League of Legends High-School Cup 英雄聯盟中學校際盃	Cyber Games Arena / 香港學生電子競技 總會 Hong Kong Federation of Students' Electronic	2014/09 - 2014/11	CGA Studio	Nil	Nil

電子競技活動名稱 Event Name	舉辦單位 Organising Company	日期 Date	舉辦地點 Venue	現場參與人數 On-spot Audience	在線觀眾人數 Online Audience
	Sports				
HK Esports 一週年電競嘉年華	Hong Kong Esports	2014/05/31	台灣國立臺北大學育樂館	1,000	Nil
HKFSES High-School League 2014 香港中學校際英雄聯盟比賽熱身賽 (四強及決賽)	香港學生電子競技總會 Hong Kong Federation of Students' Electronic Sports	2014/05	CGA Studio	Nil	Nil
第一屆香港電子競技總決賽	Hong Kong Esports	2013/08/31	香港九龍灣國際展貿中心	500	Nil