

# INTELLECTUAL PROPERTY (IP) HUB MASTER PLAN

*Developing Singapore as a Global IP Hub in Asia*



**Published April 2013**

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1 March 2013

Mr K Shanmugam

Minister for Foreign Affairs and Minister for Law

### **Intellectual Property (IP) Hub Master Plan**

1. On behalf of the IP Steering Committee set up by the Ministry of Law in May 2012, it is my pleasure to submit our proposed IP Hub Master Plan to guide Singapore's development as an IP hub in the next decade.

2. In this knowledge-based, innovation-driven globalised economy, IP has become an increasingly important driver of business growth. The growth in the IP sector is especially apparent in Asia, given the marked expansion in IP activities across the entire value chain, from the creation to the commercialisation and exploitation of IP. There is a window of opportunity for Singapore to develop itself as a Global IP Hub in Asia – a trusted, neutral node that services the needs of local and international companies in IP, and supports the development and growth of the larger IP landscape in Asia.

3. The Committee has proposed three strategic outcomes that Singapore should strive towards. First, to be a hub for IP transactions and management, so that Singapore can provide a vibrant IP marketplace to support the regional and international transaction and management of IP. Second, to be a hub for quality IP filings, by providing a strong value proposition for IP owners to file their IP in Singapore, so that both local and international companies will use Singapore as a gateway to obtain IP protection in markets all over the world. Third, to be a hub for IP dispute resolution, so that companies bring their disputes here for expeditious and effective resolution through our Courts and alternative dispute resolution avenues.

4. To achieve these outcomes, the Committee has also identified two enabling strategies in the form of developing skilled manpower resources networked to the region and beyond; and offering a conducive and progressive environment for IP activities to attract various stakeholders, and hence create a hive of IP activities in Singapore.

5. On behalf of the members of the Committee and Sub-Committees, I wish to express our appreciation to all who have generously contributed time and effort in the formulation of this IP Hub Master Plan. These include the numerous IP rights holders, practitioners, industry players and members of the public with whom we had consulted at various points.

6. The rapid evolution of the global IP landscape presents not just challenges but also opportunities for Singapore. Singapore has always been able to capture value from the global flows of goods, people and capital. We hope that the Master Plan will better prepare Singapore to act boldly and decisively to capture the flow of ideas in the next phase of development of our globalised economy.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Teo Ming Kian', with a horizontal line underneath.

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TEO MING KIAN

Chairman

IP Steering Committee,

IP Hub Master Plan

28 March 2013

Mr Teo Ming Kian  
Chairman  
IP Steering Committee,  
IP Hub Master Plan

**Intellectual Property (IP) Hub Master Plan**

1. Thank you for your letter of 1 March 2013 submitting the IP Hub Master Plan.
2. This is an opportune moment for us to undertake a concerted effort to establish Singapore as a leading centre for IP in Asia.
3. I applaud the Committee for its progressive, comprehensive and well-considered approach. It is evident that your Committee has taken into account a wide range of perspectives and has been bold in envisioning the possible avenues for Singapore to expand its role in the global IP landscape.
4. On behalf of the Government, I would like to thank you and members of the IP Steering Committee and Sub-Committees, for your efforts in formulating the IP Hub Master Plan. This will provide a robust framework to guide the continued growth of Singapore's IP sector, and cement Singapore's position as a vibrant Global IP Hub in Asia.

Yours sincerely,



K SHANMUGAM  
Minister for Foreign Affairs and Minister for Law

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## EXECUTIVE SUMMARY

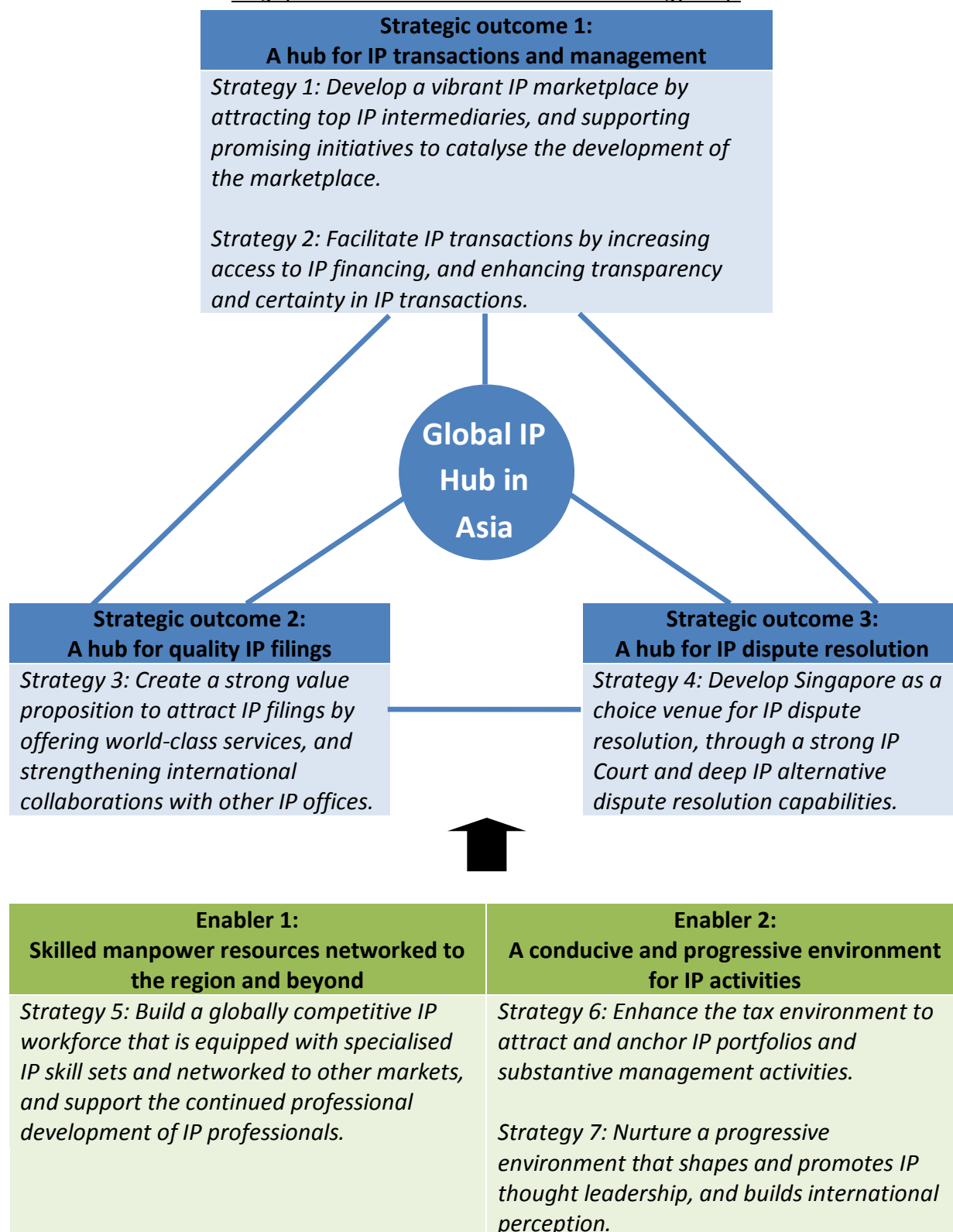
1. Intellectual Property (IP) is increasingly recognised as a key driver of business performance and economic growth in the global knowledge-based economy. Intangible assets, of which IP is a major component, have become a significant contributor to the value of companies. This has, in turn, fuelled the rapid growth in demand for IP rights worldwide.
2. Notably, Asia is emerging as a new hotbed for IP activities. Since 2010, East Asia has overtaken North America and Western Europe in the number of applications filed under the Patent Cooperation Treaty (PCT), which is used for the filing of patents in multiple jurisdictions. IP activities in Asia are growing rapidly across the various components of the IP value chain (viz. IP creation, IP protection, IP exploitation and IP enforcement), as evidenced by the rise in Gross Domestic Expenditures on R&D (GERD), IP filings, royalty and licensing fees, and IP disputes. There have also been increasing cross-border transactions and a greater confluence of IP activities between the East and the West.
3. These changes are generating opportunities for Singapore to position itself as a Global IP Hub in Asia – to play a facilitative, bridging role for regional and international transactions; and to provide a trusted, neutral platform to support the development and growth of the IP landscape in Asia. Singapore is well-poised for these opportunities by virtue of its world-class legal and financial infrastructure, high quality workforce, and strategic geographical location.

### **Recommendations to Develop Singapore as a Global IP Hub in Asia**

4. In May 2012, the Government set up an IP Steering Committee to formulate an IP Hub Master Plan that will guide Singapore as it seeks to capitalise on this window of opportunity. The Committee's recommendations have been formulated with the overarching aim of looking at both existing and future opportunities and challenges for Singapore as a Global IP Hub in Asia.
5. The Committee identified three strategic outcomes that Singapore should work towards: (i) a hub for IP transactions and management; (ii) a hub for quality IP filings; and (iii) a hub for IP dispute resolution. Two supporting enablers are necessary for the achievement of these three strategic outcomes, namely: (i) skilled manpower resources networked to the region and beyond; and (ii) a conducive and progressive environment for IP activities. The Committee also proposed seven key strategies for achieving these overarching objectives. The following schematic provides the strategy map of the IP Hub Master Plan.



Singapore as a Global IP Hub in Asia: Strategy map



**Strategic Outcome 1: A Hub for IP Transactions and Management**

6. The Committee envisions a vibrant, self-reinforcing and sustainable IP marketplace ecosystem for Singapore, underpinned by robust marketplace infrastructure and

services, to support the transaction and management of IP in Asia. IP intermediaries connecting IP buyers/licensees with IP sellers/licensors are pivotal to IP transactions, and Singapore should attract top, international IP intermediaries to strengthen the transactional capabilities here. Other key elements would include marketplace platforms (e.g. IP bulletin boards, auctions, exchanges), and emergent marketplace functions (e.g. defensive patent aggregators, patent pools, patent acquisition syndicates). Given the still nascent and evolving state of the IP industry, Singapore should adopt an open, supportive approach for a diverse array of initiatives across the entire marketplace ecosystem. Instead of “picking winners”, the Government should seed the growth of promising projects by providing a nurturing environment, even if some do not eventually succeed.

7. There is tremendous potential for the value of IP assets to be unlocked and better monetised. Various instruments like IP securitisation and IP funds already exist to leverage IP assets to raise funding, but these will take time to grow. The Government should support and attract these activities to Singapore where appropriate. For a start, Singapore should undertake an IP financing scheme where the Government partially underwrites the value of IP used as collateral, to increase the ease with which IP-rich companies in Singapore can access capital for growth and expansion.
8. IP valuation lies at the core of the marketplace and strengthening the quality of IP valuations will encourage more IP transactions. The Committee recommends establishing a Centre of Excellence for IP Valuation, to undertake research into IP valuation methodologies, develop and foster industry-wide best practices, and deliver training. Industry should also be encouraged to enhance the level of transparency with regard to information pertaining to their IP transactions.

## **Strategic Outcome 2: A Hub for Quality IP Filings**

9. To develop Singapore into a hub for quality IP filings, the Government should ensure that our IP regime not only meets international standards, but is also progressive, world-class and supportive of the needs of IP owners. We need to stay abreast of international trends and developments, and regularly review our various IP regimes.
10. IP owners primarily file their IP in markets where there is commercial interest. Given Singapore’s small domestic market, there is a need to provide companies with a strong value proposition to file their IP in Singapore. We should build a strong patent search and examination (S&E) team capable of generating quality S&E reports in an expeditious and cost-efficient manner to encourage more first

filings in Singapore. In addition, Singapore should forge stronger cooperation with other national IP offices, e.g. through Patent Prosecution Highways (PPHs), especially within Asia. An extensive network of PPHs coupled with strong S&E capabilities will allow Singapore to grow as a choice venue for quality patent filings, where applicants can obtain cost-effective and quality S&E reports quickly to expedite patent prosecution in other national IP offices. This would add to the appeal of filing first in Singapore, and to use Singapore as a gateway to secure IP protection in other countries. Singapore's patent regime already shares similar features and advantages of the provisional patent application system, including the ability for applicants to file quickly and at a low cost. We should market our various IP regimes – for patents, trademarks and designs – more actively.

11. It is also important for Singapore to build a larger core of Singapore-qualified patent agent professionals who are capable of providing high quality patent services. Our patent agents should have the expertise and experience in wide and diverse areas of technologies to cater to the needs of international companies which have global operations, so as to attract work from the region to Singapore as well as to serve the growing number of local enterprises with aspirations to become globally competitive companies. This will further support our ambition to be a hub for IP filings.

### **Strategic Outcome 3: A Hub for IP Dispute Resolution**

12. Singapore is in good stead to position itself as a choice location for IP dispute resolution, given its international reputation for quality judgments and efficiency of its Courts. Singapore should raise international awareness of its IP Court and IP Judges to attract more IP litigation cases to Singapore. In addition, given the degree of complexity of IP cases, the efficiency and adjudication function of the IP Court can be strengthened even further, through the adoption of a specialised IP docket (or case management system) and more active appointments of assessors and amicus curiae.
13. Singapore should also promote the use of alternative dispute resolution (ADR) routes, including arbitration, mediation and expert determination, to resolve IP-related disputes, particularly contractual and licensing disputes. We should establish a panel of top, international IP arbitrators in Singapore to enhance the international profile of Singapore's IP ADR capabilities and attract more IP-related ADR cases to Singapore. Greater publicity of Singapore's IP ADR capabilities should also be undertaken, in close collaboration with the various ADR institutes in Singapore such as the World Intellectual Property Organisation Arbitration and Mediation Centre (WIPO AMC) and Singapore International Arbitration Centre

(SIAC). Singapore as the venue for ADR should be actively promoted and, where practicable, included in IP-related contracts.

#### **Enabler 1: Skilled manpower resources networked to the region and beyond**

14. Manpower capabilities are a crucial element for knowledge-based industry sectors like IP. To fuel and sustain the growth of the IP industry, Singapore must be able to build world-class IP manpower capabilities – experts in strategic, market-relevant areas, who are knowledgeable about the IP environment and plugged into the network of Asian markets and beyond. Since the building of critical IP expertise will take time, Singapore should start investing in IP manpower expertise now, even ahead of demand.
15. The Committee supports IPOS’ effort in developing the IP Competency Framework (IPCF), and recommends the continued development and implementation of the IPCF to map out structured multi-disciplinary pathways for IP professionals. In particular, emphasis should be placed on highly sought-after, specialised skill sets that will give Singapore a competitive edge such as that of Patent Agents, IP Management Directors, IP Strategists, and IP Valuation Analysts. We should also leverage the IPCF to facilitate broader manpower capability growth across the region, and open up a range of possibilities for synergistic regional training collaborations and networks supported from Singapore. In line with this, we should encourage the setting up of IP offices of other countries in Singapore to strengthen this network.

#### **Enabler 2: A conducive and progressive environment for IP activities**

16. Singapore must offer a conducive environment to encourage companies and professionals from around the world to bring their IP activities to Singapore. The congregation of various stakeholders – key decision makers shaping corporate IP strategies; established IP service providers; eminent IP academics and researchers; IP investors and creators – will create a thriving community of IP players. They will, in turn, interact and collaborate in a complementary and synergistic way to create a hive of IP activities. Such a rich ecosystem will contribute significantly towards increasing Singapore’s international visibility and reputation as a vibrant IP Hub.
17. Singapore is already one of the top locations in the world for ease of doing business. We should exploit this to incentivise companies to site their IP portfolios and management teams in Singapore. The Committee recommends that an “IP Box” or equivalent tax regime be adopted, even for IP not created in Singapore, so

as to enhance Singapore's tax environment for IP management activities. Tax deductions for IP activities across the value chain are also recommended.

18. Our environment must be one that reflects a progressive, forward looking approach in the way IP is perceived and managed. IP service providers in Singapore must be dynamic and innovative in adapting to new business trends to serve the needs of IP owners. Singapore should seek to be the global nexus for discourse on IP trends and developments, especially those related to Asia, and how IP regimes, businesses and services need to evolve. To achieve this, we should establish flagship international IP and innovation-related conferences with the Singapore brand name, and host other major global IP conferences. We should also convene an international advisory panel of eminent IP strategists and thinkers to guide Singapore's development as a Global IP Hub in Asia. Lastly, Singapore must originate its own research to contribute actively to the global body of IP knowledge, and position itself as an IP thought leader.

## Conclusion

19. With the emerging global IP landscape, Singapore is well-placed to leverage its strengths and provide a unique value proposition as a Global IP Hub in Asia for IP transactions and management, quality IP filings, and IP dispute resolution. If Singapore can act swiftly and decisively, we can capitalise on the opportunities in Asia, and attract valuable IP work that will contribute to our economy and create high-value employment opportunities in Singapore and for Singaporeans in years to come.

## Summary of Key Recommendations

	Recommendation	Page
	<b>Strategy 1: Develop a vibrant IP marketplace by attracting top IP intermediaries, and supporting promising initiatives to catalyse the development of the marketplace.</b>	
1-1	Attract top, international IP intermediaries to facilitate IP transactions through incentive schemes.	23
1-2	Collaborate with industries to establish a one-stop licensing platform that allows users to easily obtain licenses for relevant forms of copyrighted works in Singapore, and grow it over time to potentially support the licensing markets in the region.	25
1-3	Support and co-fund a diverse array of projects across the entire IP marketplace ecosystem.	27
	<b>Strategy 2: Facilitate IP transactions by increasing access to IP financing, and enhancing transparency and certainty in IP transactions.</b>	
2-1	Introduce an IP financing scheme, where the Government partially	29

	Recommendation	Page
	underwrites the value of IP used as collateral.	
2-2	Support IP securitisation activities in Singapore where appropriate.	31
2-3	Attract IP fund management activities to Singapore, to enhance the slate of IP financing avenues and create spin-off demand on other sectors.	31
2-4	Set up a Centre of Excellence for IP Valuation to promote excellence in the research and practice of valuation so as to support IP transactions.	33
2-5	Work with industry to encourage positive practices that would enhance the transparency of IP transactions.	34
	<b>Strategy 3: Create a strong value proposition to attract IP filings by offering world-class services, and strengthening international collaborations with other IP offices.</b>	
3-1	Build a search and examination (S&E) team capable of producing quality S&E services expeditiously within publicised target timeframes, which should be equal to or better than that offered by the best in the world, and cost-efficiently.	38
3-2	Build comprehensive international networks and collaborations with other IP offices to develop Singapore as a gateway to other markets.	42
3-3	Grow a larger pool of Singapore-qualified patent agents with the necessary expertise to cater to the needs of international companies and attract more patent work to Singapore.	44
	<b>Strategy 4: Develop Singapore as a choice venue for IP dispute resolution, through a strong IP Court and deep IP alternative dispute resolution (ADR) capabilities.</b>	
4-1	Enhance the profile and strengthen the capabilities of Singapore's IP Court to attract more IP litigation to Singapore.	49
4-2	Establish a panel of top international IP arbitrators in Singapore to enhance the international profile of Singapore's IP ADR capabilities and attract more IP-related ADR cases to Singapore.	52
	<b>Strategy 5: Build a globally competitive IP workforce that is equipped with specialised IP skill sets and networked to other markets, and support the continued professional development of IP professionals.</b>	
5-1	Develop strategic areas of expertise under the IP Competency Framework (IPCF), with specific focus on, but not limited to, Patent Agents, IP Management Directors, IP Strategists and IP Valuation Analysts, and to serve as a training hub for IP professionals in the region to better create a strong network of IP skills and expertise across jurisdictions.	55
5-2	Seed interest in various IP career paths and develop understanding of IP from an early stage, so as to position the IP profession as a rewarding one.	58
	<b>Strategy 6: Enhance the tax environment to attract and anchor IP portfolios and substantive management activities.</b>	
6-1	Implement an IP Box or similar tax regime to provide greater transparency and certainty in Singapore's IP tax regime.	61
	<b>Strategy 7: Nurture a progressive environment that shapes and promotes IP thought leadership, and builds international perception.</b>	
7-1	Establish flagship IP and innovation-related conferences and host	62

	<b>Recommendation</b>	<b>Page</b>
	international IP conferences in Singapore, to advance and enrich IP discourse in Asia.	
7-2	Convene an international advisory panel to guide the development of Singapore as a Global IP Hub in Asia.	63
7-3	Encourage more Asia-centric, multi-disciplinary IP research in Singapore.	63



# CHAPTER 1

## INTRODUCTION

### 1.1. SINGAPORE AS AN IP HUB

- 1.1.1. The transformation of the global knowledge-based economy is gaining momentum, and the world economy will be increasingly driven by knowledge and innovation. Amid these changes, IP has emerged as a key competitive edge for businesses and economic growth. The marked proliferation of the forms and uses of knowledge is an indicator of even greater seismic shifts which will reshape the economic landscape in years to come. Singapore has always been able to capture the flow of global tides, be it in terms of goods, people or capital. It has been successful in building itself as a hub – the largest transshipment port; a key transit airport; a crucial financial centre. Singapore will need to prepare itself to capture the flow of ideas in the next key development of the globalised world.
- 1.1.2. Others have also recognised the importance of IP in the global economy. In recent years, Hong Kong, Ireland, Malaysia, and Shanghai have unveiled their intention to develop themselves as centres for IP. Singapore will have to act decisively to position itself as a Global IP Hub in Asia, and leverage its unique strengths to distinguish itself from these other efforts.

### 1.2. THE IP STEERING COMMITTEE AND SUB-COMMITTEES

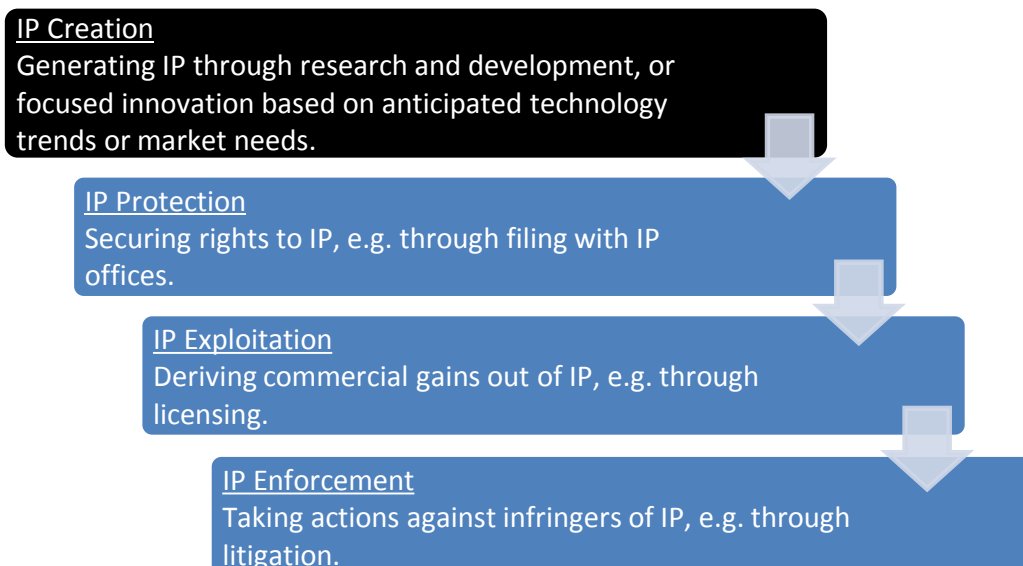
- 1.2.1. The IP Steering Committee was set up by the Government in May 2012 to recommend strategies to develop Singapore as an IP Hub, and was chaired by Mr Teo Ming Kian, Chairman of MediaCorp Pte Ltd. The Steering Committee was supported by Sub-Committee 1, which was co-chaired by Mr Magnus Bocker, Chief Executive Officer of Singapore Exchange and Mr Viktor Cheng, Deputy Chief Executive of Intellectual Property Office of Singapore (IPOS); and Sub-Committee 2, which was co-chaired by Dr Stanley Lai, Head of IP Practice, Allen & Gledhill LLP and Ms Danielle Yeow, Senior State Counsel of the Attorney-General's Chambers. The Sub-Committees focused on the areas of developing a vibrant marketplace for IP transaction and commercialisation; and building world-class IP capabilities and infrastructure. The IP Steering Committee and Sub-Committees comprised senior representatives from the private and public sectors, who possess diverse backgrounds and expertise in IP. The lists of members are attached in Annexes A and B respectively, with the terms of reference of the Committees in Annex C.

- 1.2.2. To assist the formulation of the IP Hub Master Plan, feedback was invited from IP rights holders, practitioners and the industry, as well as the general public. Study trips to key IP markets like the US and roundtable discussions were also mounted to gain insights into the opportunities and challenges for Singapore in the global IP landscape.

### 1.3. SURVEYING THE IP LANDSCAPE

#### Global Trends

- 1.3.1. With the rise of the global knowledge-based economy, there is a growing recognition in corporate boardrooms that IP is a strategic asset, and it is crucial for businesses to systematically create, manage and leverage IP, in order to optimise its value. According to Ocean Tomo, a well-established IP intermediary, the value of intangible assets for S&P 500 companies – of which IP is a major component – is now 80% of the total market value, up from 17% in 1975.
- 1.3.2. In the next decade, the IP industry is poised to undergo further growth and development. The growth in IP activities is not confined to any particular component of the IP value chain, and is evident across IP creation, IP protection, IP exploitation and IP enforcement, as demonstrated by the rise in Gross Domestic Expenditure on R&D (GERD), IP filings, royalty and licensing fees and IP disputes respectively. Figure 1.1. shows the broad value chain or life cycle of IP.



*Figure 1.1.: The IP value chain.*

- 1.3.3. Based on current trends, this growth is likely to continue and even accelerate. Demand for patenting has risen from 800,000 applications worldwide in the early 1980s to 1.8 million in 2009, while trademark applications worldwide have increased from 1 million per year in the mid-1980s to 3.3 million in 2009.<sup>1</sup> With GERD having almost doubled in real terms from 1993 to 2009 and progressively rising,<sup>2</sup> there will be even greater creation of intellectual capital in years to come. IP-related transactions are also likely to grow further. In nominal terms, international royalty and licensing fee receipts outpaced the growth in global GDP, increasing from US\$27 billion in 1990 to US\$180 billion in 2009,<sup>3</sup> i.e. 5% of world trade.
- 1.3.4. IP has become increasingly global in nature. There have been a greater number of international filings worldwide, with a record number of 182,354 patents filed through the Patent Cooperation Treaty (PCT) in 2011.<sup>1</sup> While IP is still largely territorial, there are indications of a shift towards greater international cooperation, for instance, the recent developments in introducing a unitary patent among EU member states,<sup>4</sup> and the growing popularity of Patent Prosecution Highways (PPHs).<sup>5</sup>
- 1.3.5. The globalisation of IP is also evident from the greater confluence of IP activities from the East and the West. Companies from the US and Europe are seeking a larger presence in Asia, just as Asian companies are pushing to enter new markets in the West. Asian companies, notably in China, Korea and Taiwan, have been reported to be “importing” IP significantly from the US and Europe in the last several years. They are also doing more to protect their IP in foreign jurisdictions as they internationalise. IP disputes between the East and the West are becoming more common too, e.g. Samsung (Korea) vs. Apple (US); Huawei (China) vs. Cisco (US), as technology powerhouses from Asia start to establish themselves globally. There is opportunity for Singapore to play a role in these interactions, and help navigate the differences between the two regions. Additionally, these companies will require new technology and other IP, as well as quality IP services. This presents an area of need that Singapore can cater to.

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<sup>1</sup> WIPO, 2012. *2012 World Intellectual Property Indicators*. <http://www.wipo.int/ipstats/en/wipi/index.html> (accessed Feb 2013).

<sup>2</sup> WIPO, 2012. *The Changing Face of Innovation*. [http://www.wipo.int/wipo\\_magazine/en/2012/01/article\\_0006.html](http://www.wipo.int/wipo_magazine/en/2012/01/article_0006.html) (accessed Feb 2013).

<sup>3</sup> The World Bank. <http://data.worldbank.org/indicator/all> (accessed Feb 2013).

<sup>4</sup> The unitary patent system will allow for the grant of a single European patent that will provide the owner with patent rights across all participating member states.

<sup>5</sup> A PPH enables the sharing of search and examination results between partner IP offices so as to accelerate the grant of a patent application in either of the partner IP offices.

- 1.3.6. Within Asia, IP is a rapidly growing sector. Growth in innovation and IP creation has been accompanied by a heightened interest to capitalise on it in both local and international markets. Significantly, East Asia has overtaken North America and Western Europe in PCT patent applications since 2010,<sup>6</sup> and patent filings from China accounted for 72% of total growth in applications worldwide from 2009 to 2011 (Figure 1.2.).<sup>1</sup> In ASEAN, there are fast-growing, emerging markets for IP (Indonesia; Malaysia; Philippines; Thailand; Vietnam) on the back of continued R&D investment.

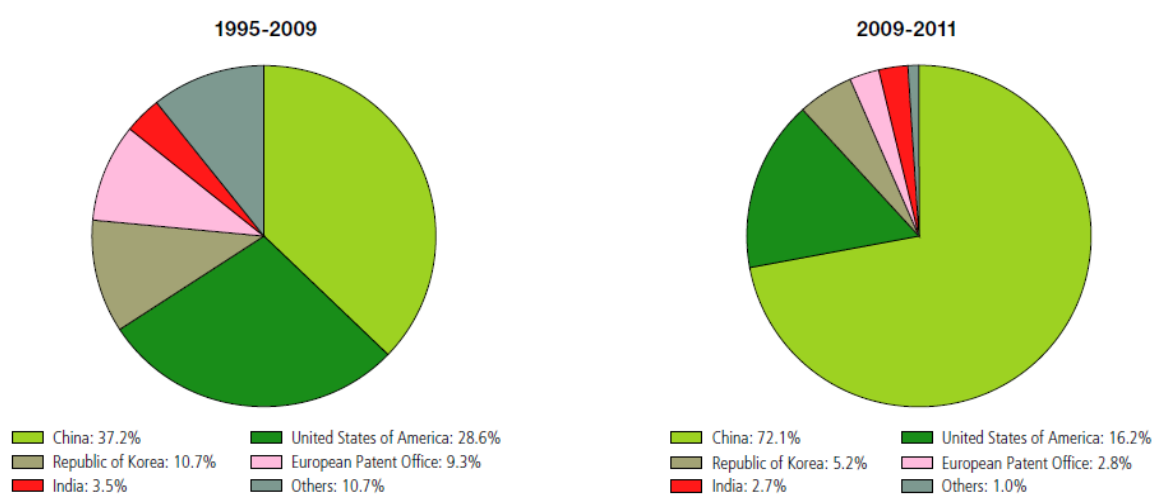


Figure 1.2.: Contribution of offices to growth in patent applications worldwide.<sup>1</sup>

- 1.3.7. The Committee notes that internationally, IP-based marketplaces are emerging as a means to better extract value from IP assets. These include a range of IP marketplaces, such as IP bulletin boards, auctions, and exchanges. IP-based marketplaces are gaining momentum, not just in the established IP markets of the US and Europe, but also in emerging Asian markets like China. IP marketplaces, while nascent, will undoubtedly play increasingly important roles in cross-border IP trade. Singapore should ride on its successes in other industries and consolidate its position as a provider of such marketplaces for international IP transactions, especially those involving the Asian markets.

#### Growth of Singapore's IP Landscape

- 1.3.8. There have been significant developments in Singapore's IP landscape in recent years. The number of IP filings in Singapore has grown significantly. From 2001 to 2011, patent filings have increased by 20% to almost 10,000, and trademark filings

<sup>6</sup> WIPO, 2011. *WIPO Assemblies 2011: Report of the Director General*. [http://www.wipo.int/about-wipo/en/dgo/pdf/dg\\_report\\_a49.pdf](http://www.wipo.int/about-wipo/en/dgo/pdf/dg_report_a49.pdf) (accessed Feb 2013).

have increased by 72% to nearly 35,000<sup>7</sup>(Figure 1.3.). In the same period, Singapore's royalty and licensing fee receipts and payments have also risen.<sup>3</sup>

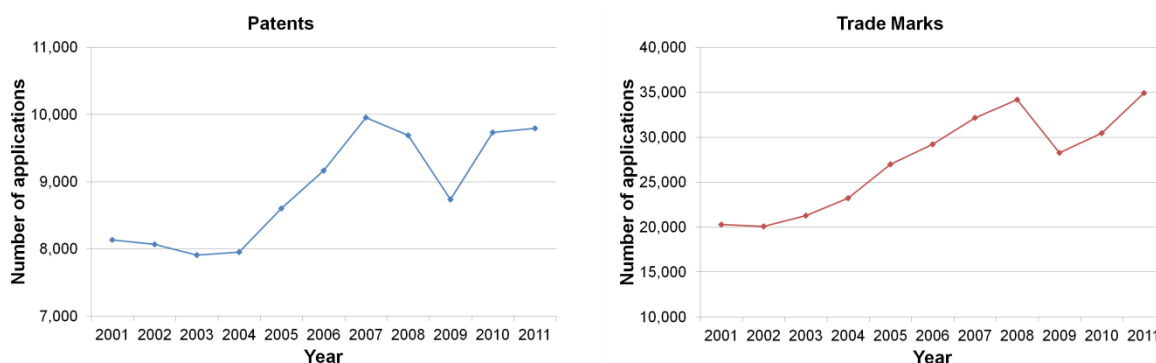


Figure 1.3.: Singapore patent and trademark filings (Source: IPOS).

- 1.3.9. Local needs for IP support services and infrastructure have increased, given the greater number of MNCs' headquarters, R&D centres, and IP management functions in Singapore. Furthermore, Singapore aims to increase its GERD from 2.3% of GDP in 2009 to 3.5% of GDP by 2015.<sup>8</sup> Taken together, there is tremendous potential for future growth in the areas of IP and IP support services.

## 1.4. IP IN SINGAPORE: OPPORTUNITIES AND CHALLENGES

### IP: An Area of Promise

- 1.4.1. The Committee is of the view that the IP industry holds great promise for Singapore if timely efforts are undertaken to capitalise on emerging opportunities. Doing so will generate high-value jobs for Singaporeans and contribute to our economic growth.
- 1.4.2. In positioning itself as an IP Hub, Singapore is starting from a position of strength. Singapore's IP legislative and enforcement frameworks, undergirded by a strong rule of law, have been considerably strengthened to support the protection, management and exploitation of IP. This is evidenced by Singapore's performance in international rankings in 2012. Singapore has been ranked 2<sup>nd</sup> and 7<sup>th</sup> in IP protection / enforcement by the World Economic Forum (WEF)<sup>9</sup> and the

<sup>7</sup> IPOS, 2012. <http://www.ipos.gov.sg/AboutIP/IPResources/Statistics.aspx> (accessed Feb 2013).

<sup>8</sup> MTI, 2011. *Research, Innovation and Enterprise (RIE) 2015*.

[http://www.mti.gov.sg/ResearchRoom/Pages/Research-Innovation-and-Enterprise-\(RIE\)-2015.aspx](http://www.mti.gov.sg/ResearchRoom/Pages/Research-Innovation-and-Enterprise-(RIE)-2015.aspx) (accessed Feb 2013).

<sup>9</sup> WEF, 2012. *Global Competitiveness Report 2012-2013*. <http://www.weforum.org/reports/global-competitiveness-report-2012-2013> (accessed Feb 2013).

International Institute for Management Development (IMD)<sup>10</sup> respectively. We are further supported by a well-developed financial service industry and highly skilled workforce.

1.4.3. Together with Singapore's high level of global connectedness and the cosmopolitan, vibrant lifestyle it has to offer, there are strong reasons for IP rights owners, service providers and investors to set up an Asian base in Singapore. Singapore's unique value proposition in terms of its attributes is summarised in Figure 1.4. below.

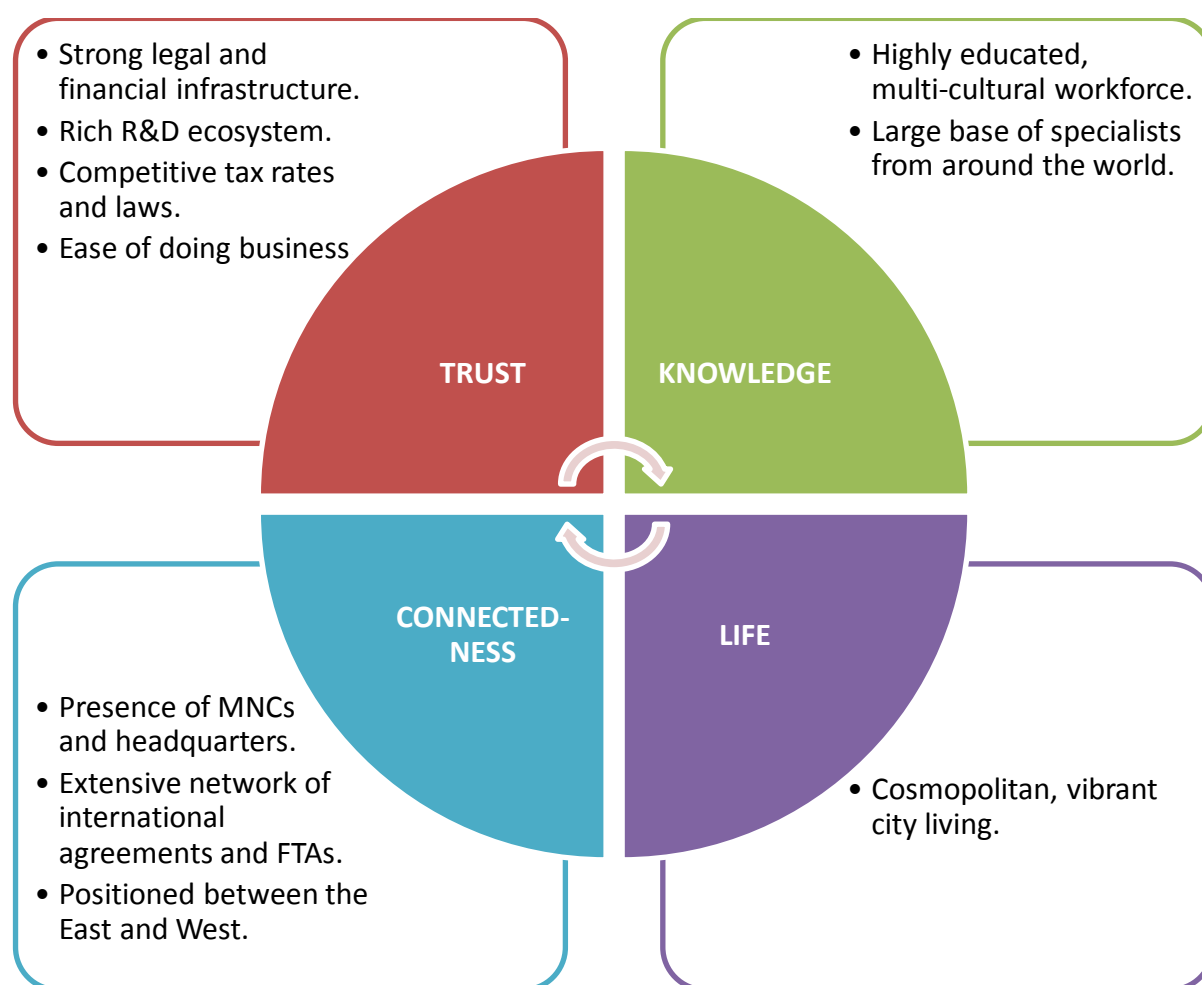


Figure 1.4.: Singapore's attributes.

### Surmounting the Challenges Ahead

1.4.4. Nonetheless, the Committee is cognisant that Singapore's development as an IP Hub faces a number of challenges. First, Singapore has a relatively small domestic

<sup>10</sup> IMD, 2012. *World Competitiveness Yearbook*. <http://www.imd.org/research/publications/wcy/index.cfm> (accessed Feb 2013).

market, which limits the demand for IP transactions, filings, and dispute resolution services. For it to gain critical mass and standing in the area of IP, it has to look outwards to tap on international markets and expertise. Second, IP transactions are costly due to difficulties in valuation and the limited transparency in the market. Third, there are still gaps in the slate of capabilities required to service the needs of the local and the region's IP ecosystem.

- 1.4.5. In its formulation of strategies to achieve the desired outcomes of Singapore as an IP Hub, the Committee has considered these constraints and sought to propose recommendations which would help address and overcome them. The overarching strategy is to identify niche areas in the global IP landscape that Singapore can contribute meaningfully to, and exploit Singapore's advantages to forge a strong value proposition, hence allowing us to punch above our weight and distinguish ourselves as a pre-eminent Global IP Hub in Asia.

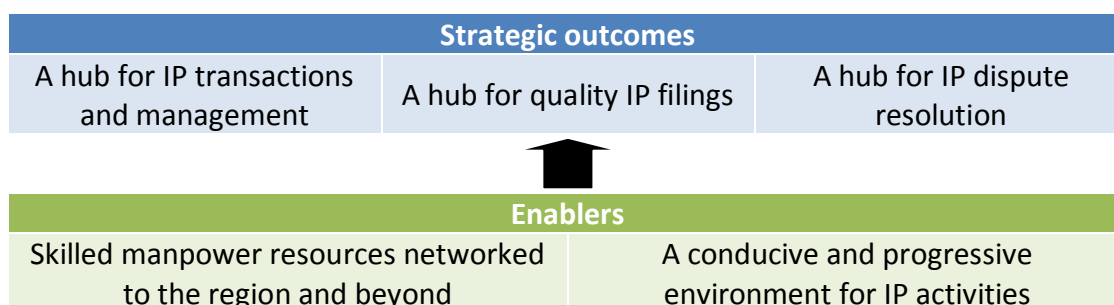


## CHAPTER 2

### KEY STRATEGIC OUTCOMES AND ENABLERS

#### 2.1. VISION OF SINGAPORE AS A GLOBAL IP HUB IN ASIA

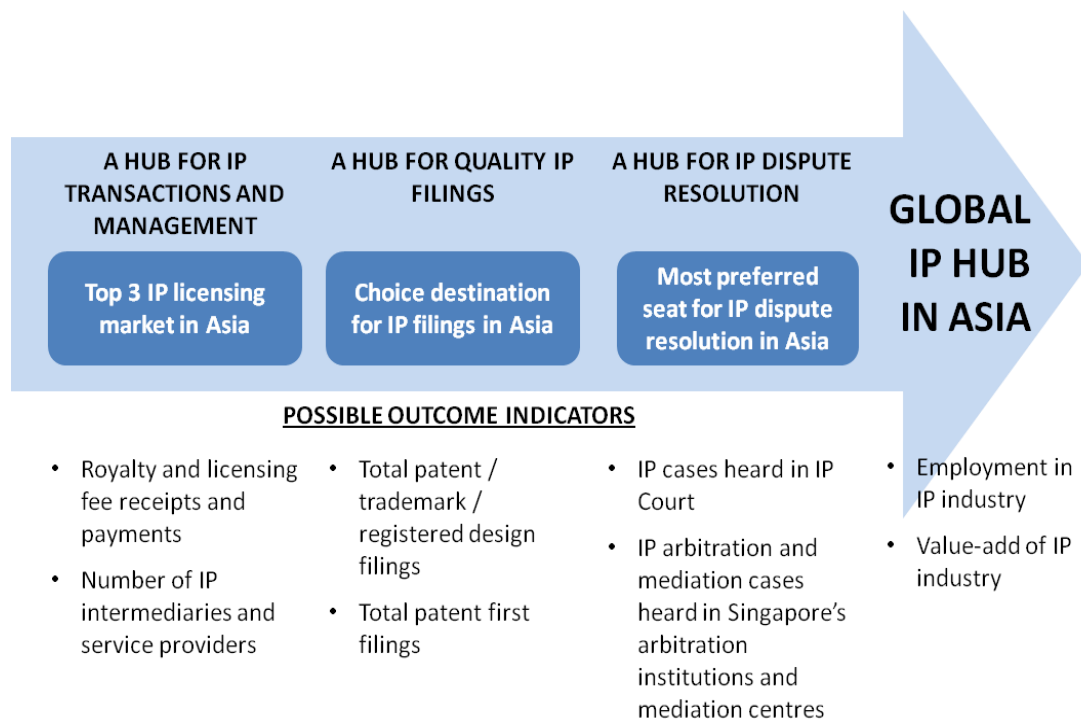
- 2.1.1. The Committee has identified three strategic outcomes and two key enablers to develop Singapore as a Global IP Hub in Asia in the next decade (Figure 2.1.).



*Figure 2.1.: Key strategic outcomes and enablers.*

- 2.1.2. The goal is to build a vibrant, sustainable IP ecosystem with a host of IP activities in Singapore, thereby creating high value-add jobs across sectors that will contribute to the economy. The average value-add of a worker in the IP industry is estimated to be S\$175,000 in 2011,<sup>11</sup> almost double the national average of S\$89,800. The IP industry comprises companies managing their IP portfolios, as well as firms providing services associated with IP protection, IP exploitation and IP enforcement, including IP intelligence / search, patent drafting, patent / trademark / design prosecution, franchising / licensing, IP brokerage, IP valuation, IP litigation, and IP training.
- 2.1.3. By attracting more global players to Singapore and extending our reach to the regional markets, there is potential for Singapore to at least double the size of the IP industry, in terms of both the employment and the total value-add, which are currently estimated to contribute to 0.24% of Singapore's GDP. Besides meeting regional demands, a more sophisticated and comprehensive IP industry will also help our Singapore-based MNCs, SMEs, research institutes and institutes of higher learning to maximise returns on their R&D investments.
- 2.1.4. To facilitate the achievement of these goals, the Committee has also identified possible outcome indicators for each of the three strategic outcomes to measure Singapore's success as a Global IP Hub in Asia (Figure 2.2.).

<sup>11</sup> IPOS' estimates based on respondents of IPOS' IP Services Survey 2011.



*Figure 2.2.: Possible outcome indicators.*

## 2.2. STRATEGIC OUTCOME 1: A HUB FOR IP TRANSACTIONS AND MANAGEMENT

- 2.2.1. Singapore should attract IP rights holders to manage, license and transact their IP from here. Each of these activities will generate strong spin-offs to the IP services industry.
- 2.2.2. Most IP transactions, especially the sale of IP, are confidential and the information is often not captured in any published statistics. A suitable proxy indicator to measure the level of IP transaction and management would be the royalty and licensing fees, as tracked by the World Bank, between residents and non-residents for the authorised use of intangible assets, including patents, copyrights, trademarks, franchises and know-how. As the transactional profile of certain major IP owners have shown, there would typically be revenue generated from the transaction of IP alongside the out-licensing of the IP in the active management and monetisation of IP portfolios.
- 2.2.3. According to the World Bank, Singapore received US\$1.9 billion in royalty and licensing fees (5% of Asian receipts) in 2010, making it the 3<sup>rd</sup> largest out-licensing market in Asia after Japan and Korea; it was the 2<sup>nd</sup> largest in-licensing market in Asia after Japan, having paid US\$15.9 billion in royalty and licensing fees (23% of

Asian payments).<sup>3,12</sup> In other words, Singapore's licensing "trade flows" totalled nearly US\$18 billion. With Japan expected to remain the key licensor / licensee of IP rights, and the rest of Asian countries, especially China, catching up rapidly, Singapore must entrench its position as a preferred location to manage and transact, and invest in IP in Asia. By supporting the East-West and intra-Asia IP transactions and facilitating IP-related financing, Singapore can grow its share of Asian receipts and payments from the current 5% and 23% respectively,<sup>3</sup> and remain within the top three IP licensing markets within Asia.

## **2.3. STRATEGIC OUTCOME 2: A HUB FOR QUALITY IP FILINGS**

- 2.3.1. While patent filings are on the rise, the Organisation for Economic Cooperation and Development (OECD) has observed that the quality of patent filings has actually fallen over the last two decades,<sup>13</sup> as some countries rush to protect minor improvements in products or services. Therefore, even as we seek to attract more patents that are filed in Asia and key global markets to be also filed in Singapore, we must ensure that patents granted in Singapore are associated with a mark of quality to differentiate ourselves from other IP offices.
- 2.3.2. Although patents are usually filed in the markets of commercial interest, they may also be filed with IP offices that offer other strategic advantages such as cost-effective, efficient and quality search and examination (S&E) which validate the strength of the patents, or the availability of PPHs which shorten the time to patent grant in key markets. Hence, our success as a hub for quality IP filings could be measured by both the number of total IP (patent / trademark / registered design) filings, and the number of first filings (i.e. the first patent application of a new invention) in Singapore.
- 2.3.3. WIPO statistics show that around 9,800 patent applications were filed in Singapore in 2010; in the same year, Singapore was the first office of filing for approximately 500 patent applications.<sup>14</sup> This makes Singapore the 5<sup>th</sup> (after China, Japan, Korea and Hong Kong) and 6<sup>th</sup> (after China, Japan, Korea, India and Turkey) most popular IP office in Asia in terms of total and first patent filings respectively. The IP offices of China, Japan and Korea (part of the "IP Five" Offices, beside the US Patent and

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<sup>12</sup> While Singapore pays more royalty and licensing fees than it receives, it also suggests that our companies are creating value-add, and generating revenue from the IP they license in.

<sup>13</sup> OECD, 2011. *OECD Science, Technology and Industry Scoreboard 2011: Innovation and Growth in Knowledge Economies*.

<sup>14</sup> WIPO IP Statistics Data Center, 2012.

Trade Mark Office (USPTO) and the European Patent Office (EPO)) accounted for almost 95% or more of the total filings and of first filings in Asia, and are expected to continue their dominance in the next decade. Nevertheless, there is certainly room for Singapore to increase its market share, so as to create more demand for the IP services sector in Singapore. Singapore should aim to raise its relative attractiveness and be one of the choice destinations within Asia for the filing of patents, and other registrable IP rights like trademarks and designs.

- 2.3.4. Being a gateway for IP filings in other markets can also be achieved through commercial IP services. Indeed, Singapore-based IP service providers are already undertaking considerable work, helping foreign companies co-ordinate their IP filings, develop IP strategies, and other related work in regional markets. We should aim to grow such offshore work as an IP Hub.

## **2.4. STRATEGIC OUTCOME 3: A HUB FOR IP DISPUTE RESOLUTION**

- 2.4.1. Singapore should position itself as a preferred location for IP dispute resolution. Our strong rule of law and highly regarded Courts are strengths that will help attract global IP disputes to be settled here. The IP Court received 40 cases in 2011,<sup>15</sup> while the Singapore International Arbitration Centre (SIAC) handles only a few IP-related cases today. There is potential to increase this as Singapore plays host to more IP activities, and as more disputes arise in Asia following greater cross-border collaborations and require trusted, efficient avenues for their resolution.
- 2.4.2. Overall, Singapore should strive to be the most preferred seat for IP dispute resolution in Asia.

## **2.5. ENABLER 1: SKILLED MANPOWER RESOURCES NETWORKED TO THE REGION AND BEYOND**

- 2.5.1. As with any other industry, the growth of Singapore as a Global IP Hub in Asia must be supported by a deep pool of world-class skilled manpower plugged into the network of Asian markets and beyond. Singapore must seek to nurture the development of IP manpower in Singapore by attracting the right talent from within and overseas, and ensuring the quality of training with emphasis on continued professional development for IP professionals.

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<sup>15</sup> This includes patent, trademark and copyright infringement actions, and counterclaims for revocation of patents. There may also be IP disputes in broader commercial cases that are heard at other Courts.

## **2.6. ENABLER 2: A CONDUCTIVE AND PROGRESSIVE ENVIRONMENT FOR IP ACTIVITIES**

- 2.6.1. An environment that is conducive for IP-related activities is also critical to the sustainable development of Singapore as a Global IP Hub in Asia. Singapore must create a rich, vibrant and innovative ecosystem of IP activities and IP stakeholders that is teeming with buzz and excitement. We should support companies managing their IP and servicing the Asian markets from Singapore. Our environment should be a progressive one that promotes discourse and forward thinking, and encourages innovative ideas that keep pace with and signposts international IP developments. Most importantly, the environment should enhance Singapore's visibility and mindshare as an IP Hub amongst the international community and in particular Asia.
- 2.6.2. Chapters 3 to 7 set out the Committee's specific recommendations to achieve the three strategic outcomes, supported by the two enablers, to develop Singapore as a Global IP Hub in Asia in the next decade.

## CHAPTER 3

### STRATEGIC OUTCOME 1: A HUB FOR IP TRANSACTIONS AND MANAGEMENT

**Strategy 1: Develop a vibrant IP marketplace by attracting top IP intermediaries, and supporting promising initiatives to catalyse the development of the marketplace.**

1. Attract top, international IP intermediaries to facilitate IP transactions through incentive schemes.
2. Collaborate with industries to establish a one-stop licensing platform that allows users to easily obtain licenses for relevant forms of copyrighted works in Singapore, and grow it over time to potentially support the licensing markets in the region.
3. Support and co-fund a diverse array of projects across the entire IP marketplace ecosystem.

**Strategy 2: Facilitate IP transactions by increasing access to IP financing, and enhancing transparency and certainty in IP transactions.**

1. Introduce an IP financing scheme, where the Government partially underwrites the value of IP used as collateral.
2. Support IP securitisation activities in Singapore where appropriate.
3. Attract IP fund management activities to Singapore, to enhance the slate of IP financing avenues and create spin-off demand on other sectors.
4. Set up a Centre of Excellence for IP Valuation to promote excellence in the research and practice of valuation so as to support IP transactions.
5. Work with industry to encourage positive practices that would enhance the transparency of IP transactions.

#### 3.1. DEVELOPING AN IP ECOSYSTEM IN SINGAPORE

- 3.1.1. The first strategic outcome is to position Singapore as a hub for IP transactions and management – a regional and global nexus for the trading, licensing and monetisation of IP. With the marked shift in the value of companies towards intangibles, there has been a corresponding shift towards deriving maximum returns from IP assets.
- 3.1.2. Amid these changes, Singapore is starting from a position of strength, as it already contributes a substantial share towards international IP trade flows. Based on World Bank data, Singapore is ranked 2<sup>nd</sup> in Asia (4<sup>th</sup> worldwide) for the amount of royalty and licensing fees paid, and 3<sup>rd</sup> in Asia (14<sup>th</sup> worldwide) for the amount received in 2010.

- 3.1.3. There is potential for Singapore to play an even larger role to facilitate the international, particularly Asian, IP trade flows. Beyond our strong legal infrastructure and capital market, our greatest value proposition as a hub for IP transactions and management is our reputation for being a trusted, neutral and secure location for doing business. This was roundly affirmed by international IP owners and intermediaries during the Committee's engagement with industry.
- 3.1.4. The Committee is of the view that Singapore's IP marketplace would need to be accompanied by robust supporting marketplace infrastructure and services. It should ultimately be a self-reinforcing ecosystem, to not only ensure long term sustainability, but also generate multiplier effects within the complementary IP sectors. This is depicted in Figure 3.1.

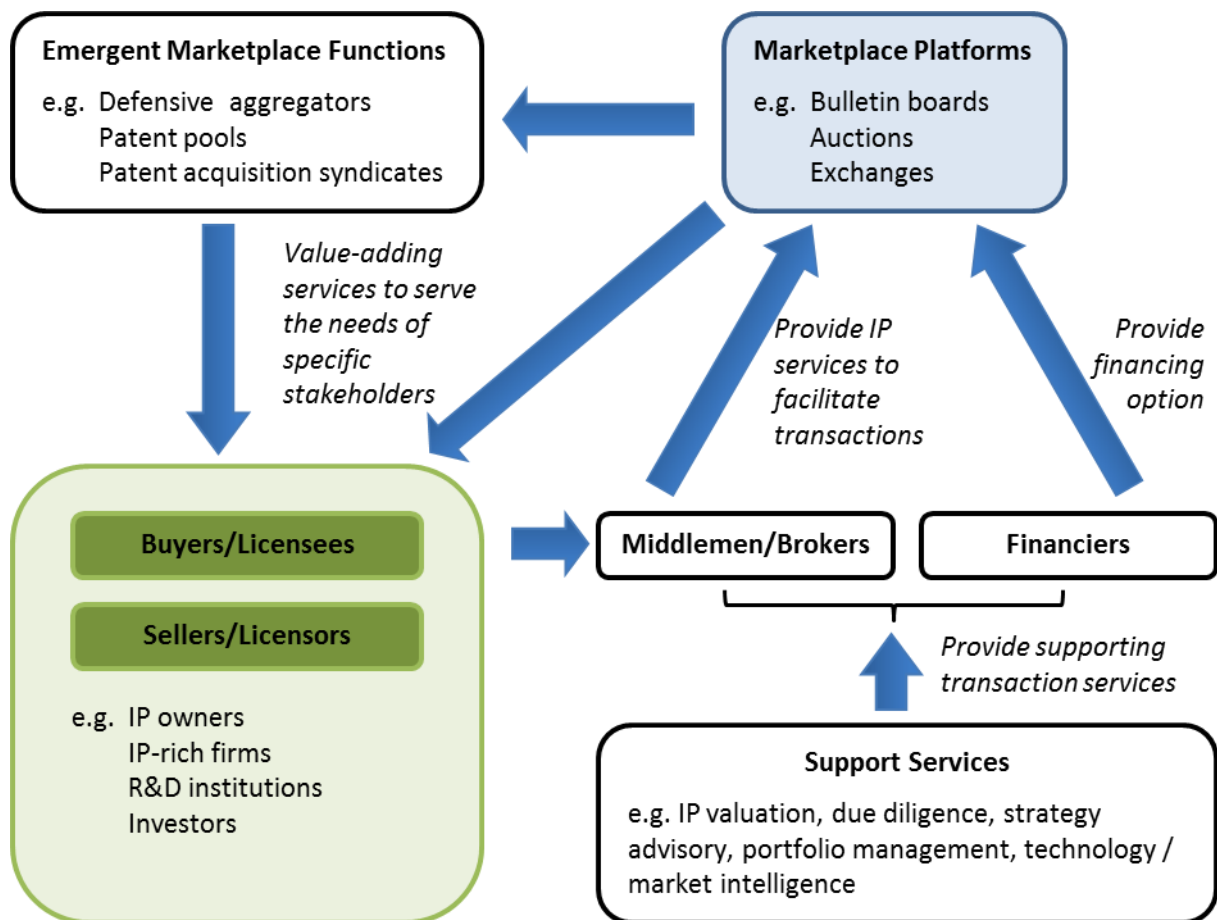


Figure 3.1.: The IP marketplace ecosystem.

- 3.1.5. The marketplace functions can be broadly categorised into the following groups, which are discussed subsequently.



A. Marketplace elements, including: <ul style="list-style-type: none"> <li>• Middlemen or brokers</li> <li>• Marketplace platforms</li> <li>• Emergent marketplace functions</li> </ul>	Section 3.2.
B. IP financing options, including: <ul style="list-style-type: none"> <li>• IP-backed loans</li> <li>• IP securitisation</li> <li>• IP funds</li> </ul>	Section 3.3.
C. IP valuation and other supporting services	Section 3.4.

## 3.2. MARKETPLACE ELEMENTS

### A. Middlemen or Brokers

- 3.2.1. IP intermediaries are crucial to any marketplace, performing the integral function of a middleman to connect IP rights holders with potential buyers of IP, and enabling the brokering, including the sale, licensing or acquisition, of IP. Their involvement is critical, since IP transactions are often strategic corporate activities where buyers (and potentially sellers) would require anonymity to safeguard the confidentiality of corporate strategies. Thus, brokers are essential to front and structure the transaction and licensing deals, provide specialised ancillary services, and use their networks and know-how to match buyers and sellers in an increasingly complex technology and IP landscape. Given that a great volume of transactions is cross-border in nature, a global network of middlemen would be even more important.

#### **Recommendation 1-1**

Attract top, international IP intermediaries to facilitate IP transactions through incentive schemes.

- 3.2.2. The Committee is of the view that IP intermediaries are required to “gel” the marketplace together, since IP intermediaries would have an intrinsic incentive to stimulate and seek out IP transactions. IP owners also engage their services for the strategic management of IP portfolios. Through incentive schemes that are customised to the different IP intermediary models, Singapore should aim to bring in the top, international IP intermediaries, particularly firms that would inject new and specialised capabilities into the local IP ecosystem. This is opportune since these firms would also require an Asian base to service and grow their clientele. We can also consider ways in which the intermediaries in Singapore can be better organised. For example, the industry could develop a transactional rulebook, to promote consistency and best practices and encourage more IP transactions to

take place. The availability of marketplace platforms and financing, as discussed later, will further add to our appeal as an IP marketplace.

## **B. Marketplace Platforms**

- 3.2.3. Marketplace platforms can be used to increase the transparency, quality and efficiency of different types of IP transactions, be it in terms of IP assets themselves or licenses. Three common types of marketplace platforms are IP bulletin boards, IP auctions, and IP exchanges, with each experiencing varying degrees of success.

### IP bulletin board

- 3.2.4. An IP bulletin board is a central listing directory for the licensing, buying and selling of IP. Users of the bulletin board will have access to portfolio and transaction-related information. The level of information disclosure can be controlled by a membership or listing fee to maintain the level of confidentiality necessary in the IP transactions. As observed in a study by the European Commission in 2012, successful platforms would need to significantly reduce the screening cost by providing potential buyers with additional information about related know-how and commercial potential of the technology.<sup>16</sup> Such platforms would also need to provide value-added services to reduce transactional cost.

### IP auction

- 3.2.5. An IP auction is a platform where buyers bid for IP assets. Auctions usually take the form of live auctions for patents.<sup>17</sup> While some international commentators feel that IP auctions are slowly losing popularity, there are still advantages to be gained. For example, IP auctions provide price transparency for IP assets through the publicly-available data on IP transaction values. Such a data set of comparable transactions will aid in the pricing and valuation of IP in the same technology field. The publicity and buzz generated by live auctions can also help sellers reach out to more buyers. In line with Singapore's IP Hub objectives, Singapore could potentially host auctions of US or European patents for Asian buyers, and vice versa. The key for a successful auction would be to ensure that only top-tier IP assets are featured.

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<sup>16</sup> European Union, 2012. *Options for an EU Instrument for Patent Valorisation*.

<sup>17</sup> The most prominent of examples would be the Nortel auction, which resulted in the Apple/Microsoft-led consortium paying US\$4.5 billion for 6,000 patents.

### IP exchange

- 3.2.6. An IP exchange is a trading platform where IP-based instruments are listed and traded with publicly available information pertaining to the trading volume and pricing. This is still a relatively “greenfield” area, and there are various forms of exchanges worldwide at different stages of development. One example in the US aims to list and trade “standardised licenses” of patents to facilitate efficient mass licensing. New market models that attempt to trade other IP-based financial products are also emerging, thereby allowing IP owners to monetise their IP assets.

### Digital copyright licensing exchange

- 3.2.7. Among the various possible forms of IP rights trading, the area of copyright licensing warrants special attention due to the transformational changes brought about by the digital age. In line with changing consumer needs, there has been a proliferation of new forms of digital services across different types of copyrighted content, and the rise of digital forms of content has been accompanied by the increase in ease with which content can be disseminated across borders. As a result, existing models of global royalty collection are being challenged to keep pace, while global service providers grapple with a complex web of fragmented copyrights which are territorial and residing with various different rights holders.
- 3.2.8. Digital copyright licensing is clearly an area that will require strong international cooperation to address new business needs and be made more efficient. Some international efforts are already underway to address these challenges, notably the *International Music Registry* facilitated by WIPO, the *Global Repertoire Database* set up by the EU for licensing music, and the *Digital Copyright Exchange* in the UK for licensing copyrighted works (e.g. music, images, publishing, and audiovisual clips). All of these initiatives are underpinned by similar objectives of facilitating and streamlining the licensing process in the digital environment.
- 3.2.9. The Committee has also received feedback that Singapore’s music copyright licensing industry could be better organised to facilitate the entry of new digital content service providers, and to allow local businesses to obtain licenses to use copyrighted works more easily.

#### **Recommendation 1-2**

Collaborate with industries to establish a one-stop licensing platform that allows users to easily obtain licenses for relevant forms of copyrighted works in Singapore, and grow it over time to potentially support the licensing markets in the region.

- 3.2.10. A digital copyright licensing platform in Singapore will enable users to access a unified database of information on specific forms of copyrighted works and obtain licenses more easily and efficiently. Given that Singapore hosts the regional headquarters of several copyright owners such as international record labels, we can even potentially grow the platform to help support the licensing markets in the region, in co-ordination with the larger international efforts. Singapore can play this role well with our strong IT infrastructure and services, and our reputation for stability, neutrality and efficiency. The Committee notes that such initiatives would ultimately hinge on the ability of the industry to organise itself in a concerted fashion to improve Singapore’s copyright licensing system.

### **C. Emergent Marketplace Functions**

- 3.2.11. A progressive IP marketplace should also comprise new marketplace functions such as defensive patent aggregators, patent pools and patent acquisition syndicates. Defensive patent aggregators acquire key patent portfolios for particular sectors, and grant licenses to their clients – usually operating companies – to provide a protective measure against unwanted patent infringement claims and litigation. Patent pools also present a progressive and desirable function in the IP marketplace, since they bundle essential patents for third party manufacturers to access specific technologies (e.g. industry standards like radio-frequency identification (RFID); Moving Picture Experts Group (MPEG)). Patent acquisition syndicates band together interested operating companies to purchase patents on an ad-hoc basis to neutralise patent infringement risks. In today’s technology environment where products increasingly draw upon a multitude of innovation sources globally, a single source of patent portfolios will likely gain favour. Singapore should support and develop these emergent functions, to create a diverse and sophisticated IP marketplace that caters to the unique needs of its stakeholders.

### **Overall Approach to Develop the IP Marketplace**

- 3.2.12. IP marketplaces worldwide are constantly evolving at a fast pace in their form, function and stakeholders served; each of the marketplace entities would suit the needs of different buyers and sellers. The Committee feels that it is not clear at this moment which would eventually emerge as the dominant form. In fact, like any other marketplace, there would need to be a wide variety of market mechanisms for it to truly flourish. Singapore as an IP Hub therefore need not seek to “pick winners” at this early stage, but should instead find ways to support a diverse range of such marketplace avenues and allow the marketplace to develop

and evolve naturally. The Committee noted that this view was also held in a study commissioned by the European Commission.<sup>16</sup>

**Recommendation 1-3**

Support and co-fund a diverse array of projects across the entire IP marketplace ecosystem.

- 3.2.13. The Government should support ground-up proposals of IP marketplace players that create infrastructure to facilitate marketplace transactions, by providing co-funding where appropriate. If we can seed growth in promising areas in a timely fashion, Singapore's IP marketplace ecosystem can grow and remain progressive and relevant. In particular, priority should be given to meritorious proposals that bring strong value-add to the IP marketplace ecosystem and generate spin-off demand on other parts of the IP industry.

**3.3. IP FINANCING**

- 3.3.1. The availability of financing is a key ingredient of any marketplace. It allows companies with IP to raise capital to fund further growth and expansion, or to acquire IP and licenses to strengthen products and improve services.
- 3.3.2. As with the Ocean Tomo study on S&P 500 companies, a 2010 analysis of 37,000 companies in the top 53 stock markets by Brand Finance, a global intangible asset valuation consultancy firm, concluded that a significant portion of global enterprise value – 40% – intangible; in Singapore, this percentage is 50%.<sup>18</sup> There is clearly much latent value in IP assets that can be unlocked.
- 3.3.3. IP financing can be broadly classified as follows:
- **IP-backed loans** – loans that are partially or wholly secured by the company's IP assets as collateral;
  - **IP securitisation** – upfront lump-sum payment in exchange for future royalty streams from the company's IP assets;
  - **IP funds** – funds that invest in IP in a strategic manner, e.g. acquiring IP for licensing, investing in the development or commercialisation of IP, taking equity stakes in companies which own IP.

<sup>18</sup> Brand Finance, 2010. *Singapore Top 100 Annual Report*.  
[http://www.brandfinance.com/images/upload/sg\\_top\\_100\\_report\\_2010.pdf](http://www.brandfinance.com/images/upload/sg_top_100_report_2010.pdf) (accessed Feb 2013).

3.3.4. Although IP financing is a more developed industry compared to a decade ago, it is still not widely accepted by financial institutions and investors today. This can be attributed to a number of factors, including:

- Lack of understanding and familiarity with IP as an asset class;
- Concern with the availability of marketplace avenues to liquidate IP assets;
- Lack of confidence in the valuation of IP assets;
- Concern with the volatility of IP asset values, in particular patents, due to potential disruptive technologies and changes in applicable laws with regard to patent damages;
- Concern with the need for enforcement and litigation to preserve the value of IP assets.

3.3.5. Despite these issues, IP financing appears to be a viable option to diversify the funding sources for companies. Some IP commentators find IP to be less correlated with the broader financial market than traditional asset classes like real estate and commodities, and thus help to diversify investment risks. There is potential for Singapore to develop itself into a hub where companies rich in IP can come to raise capital, and where investors can make investments in IP. A well-developed and sophisticated IP financing sector that recognises the value of IP can attract more transactions to Singapore, and catalyse the demand for other IP support services. Singapore has a conducive environment to achieve this due to its strong financial services and wealth management sectors, and its strong regulations that provide confidence to IP holders and investors alike.

3.3.6. There should be a range of IP financing options – from financial institutions such as banks, IP intermediaries, as well as venture capital firms, in order to enable the financing of IP across the spectrum from early stage to mature IP (Figure 3.2.). As a general principle, the Committee is of the view that financing of early stage IP should primarily be left to venture capital and private equity investors due to the higher risk profile at this stage of IP development. In the same vein, professional markets (i.e. an equity trading platform for professional investors) could act as the bridge to connect IP-centric companies with equity capital. There is potential to leverage existing / future professional markets which cater to all types of companies, and carve out a niche for IP-centric companies to raise funds there. This is a good fit because a certain level of investor sophistication is required to assess the risks and potential of IP as an investment asset. The banks, on the other

hand, should be more actively involved for the more mature and proven IP, where the risks are more defined and can be better managed.

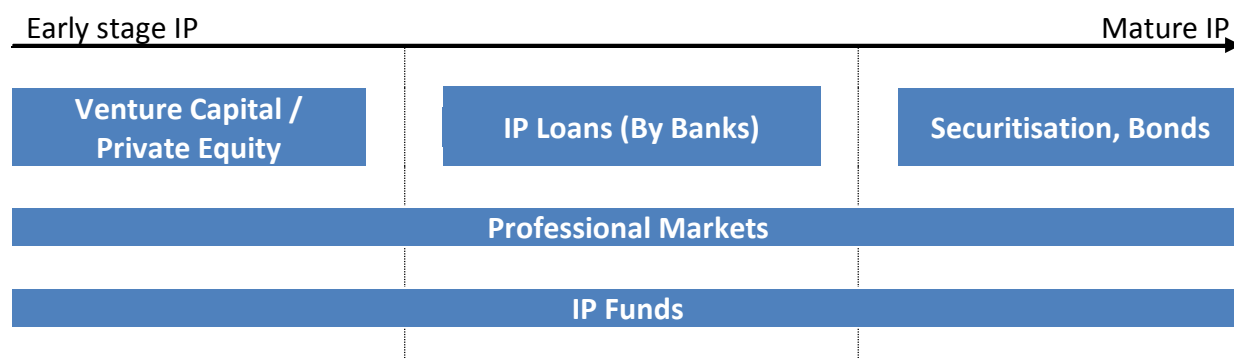


Figure 3.2.: Financing approaches for different stages of IP.

#### A. IP-Backed Loans

- 3.3.7. Several countries have implemented or will be implementing IP-backed loan programmes to help their domestic SMEs obtain financing using their IP as collateral, including Japan, Thailand, China, and more recently, Malaysia.
- 3.3.8. In Singapore, local banks are generally more conservative, and have concerns accepting IP assets as collateral. Consequently, our IP-rich but asset-light companies, especially those in the R&D and technology sectors, often experience difficulties in obtaining loans from local banks or other financial institutions to finance growth and expansion. A 2010 study conducted by INSEAD found that the limited availability of growth capital and restrictive bank lending is one of the barriers for the growth of high-tech SMEs in Singapore.<sup>19</sup> MNCs, on the other hand, are typically already able to raise capital through their existing credit facilities.
- 3.3.9. IP-backed loans will enable Singapore-based companies that are rich in IP to reach the next stage of development and compete in international markets. This will also help attract regional high-tech or IP companies to relocate their IP and related operations to Singapore to access capital.

#### **Recommendation 2-1**

Introduce an IP financing scheme, where the Government partially underwrites the value of IP used as collateral.

<sup>19</sup> INSEAD, 2010. *High tech SME gap in Singapore*.  
[http://www.insead.edu/facultyresearch/centres/global\\_private\\_equity\\_initiative/students/documents/HighTechSMEinSgp\\_Oct2010.pdf](http://www.insead.edu/facultyresearch/centres/global_private_equity_initiative/students/documents/HighTechSMEinSgp_Oct2010.pdf) (accessed Feb 2013).



- 3.3.10. The Committee recommends that the Government introduce an IP financing scheme to encourage investors and financial institutions to venture into this area. For instance, there could be a pilot scheme for IP-backed loans, where the value of the IP assets of the borrower would be partially underwritten by the Government to encourage banks to accept them as collateral in support of the loan. It would be important for the banks to be left to undertake their own due processes in assessing the credit worthiness of the applicants and the business case of the applicants. IP collateral should be treated like any other asset that may help, instead of drive, the loan application. The Strategic Risk Initiative (SRI) introduced during the 2009 global financial crisis to support bank lending could provide some lessons to follow.
- 3.3.11. Overall, such a scheme for IP-backed loans will also start to build IP financing capabilities among the local financial sector to manage IP as an asset class, to enable more sophisticated forms of IP financing to take place in future.

## **B. IP Securitisation**

- 3.3.12. IP securitisation is a structured finance tool that would help to widen and diversify the slate of IP financing offerings in Singapore. IP securitisation involves the transfer of IP assets to a bankruptcy-remote special purpose vehicle (SPV). IP assets which are generating steady revenue streams through licensing are particularly good candidates for securitisation. The benefits of SPV include the isolation of credit risk, and credit arbitrage opportunities where IP companies could achieve better credit ratings, leading to a possibly lower cost of borrowing as compared to traditional loans. As IP becomes an increasing source of asset value in companies, there is potential for IP securitisation to gain greater traction in financial markets.

- 3.3.13. Past examples of IP securitisation deals include:

- Patent securitisation, where DRI Capital structured a patent securitisation for US\$195 million in 2012, which is backed by the cash flow of 18 royalty streams from a pool of 14 drugs<sup>20</sup>;

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<sup>20</sup> Reuters, 2012. *Bonds backed by drug-royalty cashflows make a return*. <http://www.reuters.com/article/2012/03/05/drug-royalties-abs-idUSL2E8E58LS20120305> (accessed Dec 2012).

- Trademark securitisation, where Sears Holding, an American retailer, issued US\$1.8 billion worth of bonds in 2007 by securitising the three brand names<sup>21</sup>; and
- Copyright securitisation, where Miramax Films, an American entertainment company, completed a US\$550 million securitisation deal in 2011 backed by licensing and distribution royalty streams of a library of more than 700 films<sup>22</sup>.

3.3.14. The market for IP securitisation is still nascent in Asia. Even in the US, IP securitisation is estimated to constitute only a small percentage of the total asset-backed securitisation market. The view in the US is that it remains a useful option to diversify the funding sources, though the nature of IP securitisation is very niche and specialised and would not benefit all companies.

**Recommendation 2-2**

Support IP securitisation activities in Singapore where appropriate.

3.3.15. The Committee observes that among other reasons, IP securitisation might not be seen as an attractive alternative compared to traditional forms of borrowing capital due to the current low interest rate environment. Nonetheless, it might pick up in future when the cost of borrowing rises, and when the IP industry matures and IP becomes more recognised as a viable investment asset class by investors. Hence, the Government should support IP securitisation activities via existing asset-backed securitisation incentive schemes, where appropriate, to seize future opportunities to serve Asian markets. In this way, Singapore can gradually build capabilities and the right environment, to eventually position itself as the go-to place with the requisite expertise and market connections to attract and structure IP securitisation deals for the Asian markets in future.

<sup>21</sup> US Securities and Exchange Commission, 2012. *Sears Holdings Corporation*. <http://www.sec.gov/Archives/edgar/data/1310067/000144530512003689/shldq32012.htm> (accessed Dec 2012).

<sup>22</sup> American Banker, 2012. *Barclays Works to Keep Recent Strength in Asset-Backed Securities*.

## C. IP Funds

3.3.16. There has been a gradual growth in the number of sovereign and private funds used to invest in IP assets worldwide. Such funds, also known as “IP funds”, can be broadly classified as follows:

- Patent funds, which invest in the purchase of titles to patents from third parties, with the aim of gaining profits from their sale and licensing, and where necessary from litigation of the infringements;
- Technology development funds, which generally invest directly in targeted IP-rich companies or IP portfolios.

### **Recommendation 2-3**

Attract IP fund management activities to Singapore, to enhance the slate of IP financing avenues and create spin-off demand on other sectors.

3.3.17. Like IP securities, IP funds can serve as an alternative source of financing for IP companies. It allows the risks of individual IP assets to be pooled and managed together. Depending on the structure of the fund, some may also help companies commercialise their IP and bring their technology to market. The fund managers and professionals, who are needed for the operation of IP funds, require skill sets in both financial, IP, technology and commercialisation domains, and would add to the types of job creation the Committee is seeking. Given this and other possible spin-offs to Singapore’s economy, the Committee recommends that the Government should leverage existing tax incentive schemes to attract more of these funds and their management activities here.

## 3.4. IP VALUATION AND OTHER SUPPORT SERVICES

3.4.1. The IP marketplace ecosystem should be served by an IP services sector that supports and facilitates IP transactions and management. Ensuring the presence of a comprehensive suite of IP services is paramount, especially given Singapore’s increasing focus on innovation and R&D. Such support services include IP valuation, due diligence, strategy advisory, portfolio management, technology and market intelligence, technology transfer, and commercialisation. It would be beneficial for Singapore to continually improve its ability to function as a “one-stop shop” for the provision of these various services to local and Asian companies.

3.4.2. In particular, the Committee is of the view that IP valuation stands at the core of the marketplace as it underpins any IP transaction or financing activity. Singapore

should be proactive in ensuring this key capability is in place to support the growth of the IP marketplace.

#### Challenges to IP valuation

- 3.4.3. IP valuation may be inherently more subjective and difficult to undertake, as compared to the valuation of tangible assets. This is due to features unique to IP: different types of IP, different maturity periods and applications of the IP, lack of market transparency, complex and evolving technological landscapes, uncertainty in potential economic damages in infringements, and the fact that IP by design are “one of a kind”.
- 3.4.4. The Committee notes that there are already well-established international standards governing the valuation of intangible assets in general. Within these broad frameworks however, there can be ambiguity in the way assumptions are made and specific methodology used to value IP assets, especially when dealing with early stage IP. Hence, while IP valuation is a necessary step for the completion of any IP transaction, there tends to be limited confidence in the valuation process. This complicates the transactional process and adds to the transactional cost of both parties. There is room for further collaborative research to promote greater consistency and certainty in the valuation process for IP assets, to minimise the risks for parties and encourage more transactions.

#### **Recommendation 2-4**

Set up a Centre of Excellence for IP Valuation to promote excellence in the research and practice of valuation so as to support IP transactions.

- 3.4.5. The Committee recommends that the Government work with the industry to set up a Centre of Excellence for IP Valuation. This Centre should build on the existing body of knowledge in IP valuation research, frameworks and standards, and seek to fulfil three main functions. Firstly, it should provide a platform for practitioners and academics from around the world to collaborate on research and provide thought leadership in IP valuation methodologies and best practices, with a focus on generating industry-relevant and practicable insights. There could be analytics systems developed to retain and apply these best-in-class valuation methodologies. Secondly, the Centre should deliver training to raise competency within the industry. Thirdly, the Centre should establish a baseline level of accreditation, in collaboration with other international bodies where appropriate, to ensure a minimum standard of proficiency in valuation services offered in Singapore. In so doing, Singapore can establish itself as a world leader in this area. We can help to promote industry norms and best practices that are accepted worldwide, raise the

level of confidence and trust in IP transactions, and support and stimulate international IP transactions.

### 3.5. MARKETPLACE TRANSPARENCY

- 3.5.1. The IP marketplace can be complex and not easily understood. Coupled with the inherent nature of IP transactions where the information is often scarce and confidential, the barrier to entry into the IP marketplace can be quite high. With these information gaps, buyers and sellers of IP assets would have to expend considerable resources for various due diligence activities, before entering into an IP transaction.
- 3.5.2. To address these inherent challenges to transacting IP, greater transparency and certainty should be fostered in the IP marketplace. For one, greater transparency can be achieved through the greater availability of IP transaction-related information. This speeds up the due diligence process and boosts confidence in IP transactions for all parties involved. Stronger certainty and assurance can also be achieved via strong regulatory regimes and good corporate practices to protect commercial and investment interests.<sup>23</sup> This would benefit investors as they would be better equipped to make an informed decision, and it would encourage companies to pay more attention to how they manage their IP.

#### **Recommendation 2-5**

Work with industry to encourage positive practices that would enhance the transparency of IP transactions.

- 3.5.3. To cultivate a vibrant IP marketplace, the Government should work with industry players and IP rights holders to encourage good IP practices, such as the recordal of IP transactions and related details with the Registrar, including the assignments, licenses, security interests, and security interests of licenses, of IP rights. This information should be easily accessible to facilitate due diligence efforts.
- 3.5.4. In particular, we recommend that the Government work with industry partners such as the Singapore Exchange to review listing requirements and guidelines, such that there are clearer guidelines to encourage more explicit disclosure of information related to IP assets. This would increase market transparency by providing financial markets with access to information on companies' IP asset holdings. Given the increasing importance of IP and other intangibles in driving the

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<sup>23</sup> For example, in February 2012, the Hong Kong Exchange issued a guidance letter to give greater clarity on the extent of IPR disclosures required for newly listed companies.

value of companies in future, such a move would help facilitate investor decision-making and signal the value that Singapore places on IP assets.

## CHAPTER 4

### STRATEGIC OUTCOME 2: A HUB FOR QUALITY IP FILINGS

**Strategy 3: Create a strong value proposition to attract IP filings, by offering world-class services and strengthening international collaborations with other IP offices.**

1. Build a search and examination (S&E) team capable of producing quality S&E services expeditiously within publicised target timeframes, which should be equal to or better than that offered by the best in the world, and cost-efficiently.
2. Build comprehensive international networks and collaborations with other IP offices to develop Singapore as a gateway to other markets.
3. Grow a larger pool of Singapore-qualified patent agents with the necessary expertise to cater to the needs of international companies and attract more patent work to Singapore.

#### 4.1. TRENDS IN GLOBAL IP FILINGS

- 4.1.1. The second strategic outcome is to build Singapore as a hub for quality IP filings. The decision of whether to file for IP protection in a particular country often depends primarily on the commercial returns of doing so. Although Singapore is inherently disadvantaged due to our small domestic market size, we must aim to punch above our weight as a Global IP Hub in Asia. Singapore can develop into a hub for IP filings if we can offer a strong value proposition to inventors and companies.
- 4.1.2. In terms of broad trends, global R&D activity and output are expected to grow, especially in Asia. In recent times, Asia has seen the highest percentage of trademarks, patents, and industrial designs filed (Figure 4.1.). In addition to the rise of Asia in IP creation, companies are also looking to protect their IP in multiple jurisdictions concurrently. In light of this, Singapore should seek to forge more synergistic collaborations with the IP offices of other countries to provide greater value-add to companies and attract IP filings to Singapore. The objective is not to divert IP bound for other national IP offices to Singapore, but to attract IP filed in Asia and other key global markets to also be filed in Singapore.

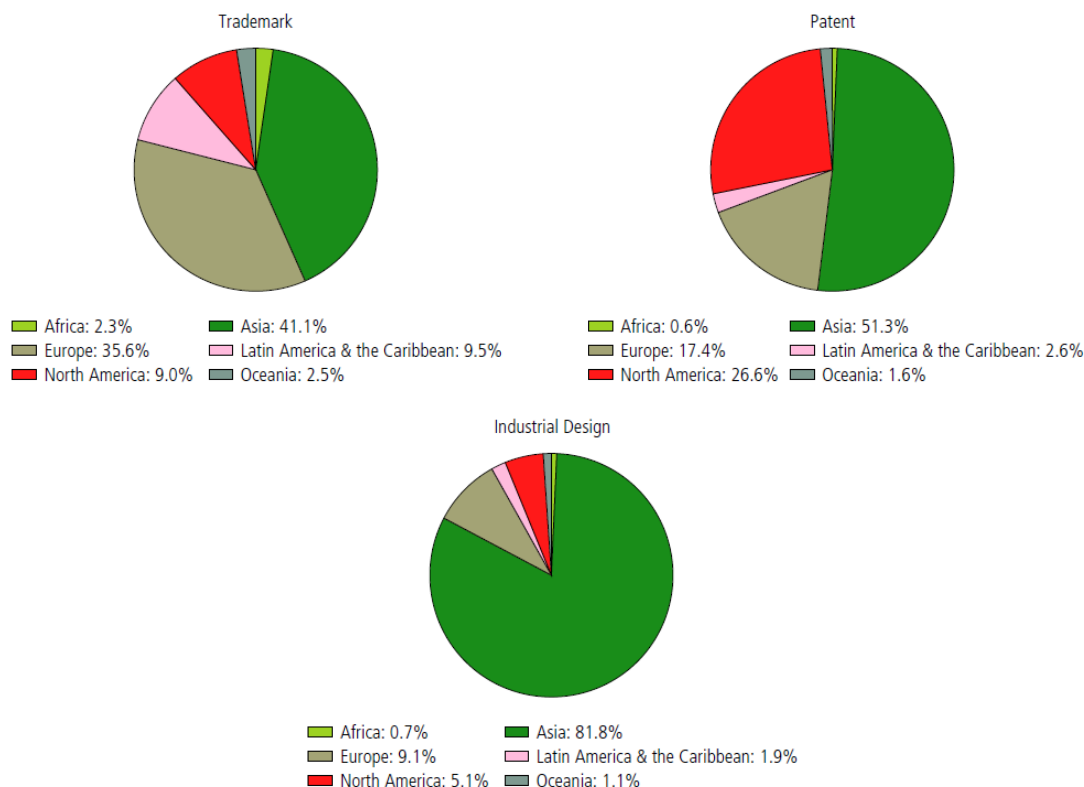


Figure 4.1.: Applications by geographical region, 2010.<sup>24</sup>

4.1.3. The “IP Five” offices are in constant pursuit to improve their IP regimes in various aspects, including increasing the quality of the examination processes and granted IP, and enhancing resource management to reduce backlog. To attract more IP filings to Singapore, we must constantly enhance our IP regime to align ourselves with these top IP regimes and remain in step with international trends. We also need to build a strong and vibrant IP services sector that is capable of supporting the higher demand for IP services, which could in turn help to attract even more IP filings to Singapore. Such a virtuous cycle can help create many high-value employment opportunities for our IP professionals.

## 4.2. ROBUST AND WORLD-CLASS IP REGIME

4.2.1. The dynamic development of today’s business environment has brought all forms of IP to the fore – from trademarks to designs to trade secrets – so as to accord strong and holistic protection to a company’s intellectual creations. Some of the recent global smartphone disputes, for example, hinged primarily on design patent rights. In the UK, the Hargreaves Review focusing on copyright law made

<sup>24</sup> WIPO. 2012 IP Facts and Figures.



recommendations to ensure that their IP framework is conducive to support innovation and promote economic growth in the digital age.<sup>25</sup> The nature of trademarks and brands is also constantly evolving, and new IP owners are increasingly inventing sophisticated and innovative trademarks. It is important for Singapore to stay abreast of international and recent developments. Our IP regimes across different types of IP should be regularly reviewed, including the prosecution process. The standing and capabilities of the patent, trademark and design professions should also be regularly reviewed and enhanced. This would ensure that Singapore's IP regimes not only meet international standards, but are also progressive, world-class and supportive of the needs of IP owners.

- 4.2.2. Singapore has already made good headway in our patents regime. The Committee reaffirms IPOS' plans to move from a patent self-assessment system, where patent applications need not fully fulfil Singapore's patentability criteria, to a positive grant system. Under the positive grant system, only patent applications which fully meet patentability criteria and have received a positive S&E report can be granted. The positive grant system will align our patent regime to those of major established patent offices, and strengthen business and investor confidence in our patent regime.

#### **A. Patent Search and Examination Capabilities**

- 4.2.3. The Committee applauds IPOS' plan to build domestic S&E capabilities. To position itself as a hub for IP filings, Singapore should build a strong patent S&E team capable of providing applicants with quality S&E reports expeditiously and at a reasonable cost. Having our own world-class S&E capabilities will also help develop the suite of IP capabilities in Singapore, and burnish our credentials as a Global IP Hub in Asia.
- 4.2.4. Certain national IP offices have over time built a reputation for providing best-in-class S&E expertise in niche areas reflective of the strengths of their economic and industry sectors. For example, the Korean Intellectual Property Office (KIPO) has developed a strong reputation for their S&E expertise in consumer electronics, particularly liquid crystal display (LCD) technologies. Similarly, IPOS should distinguish itself through the strength of its S&E capabilities in niche technology areas. The current technology areas that IPOS has identified – biomedical sciences, electronics and IT – are in line with the strategic industry sectors that Singapore

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<sup>25</sup> Professor Ian Hargreaves, 2011. *Digital Opportunity: A Review of Intellectual Property and Growth*. <http://www.ipso.gov.uk/ipreview-finalreport.pdf> (accessed Feb 2013).

intends to grow. In the future, the S&E team could look towards providing a wider range of services similar to that provided by the Danish Patent Office, such as prior art search services.

**Recommendation 3-1**

Build a search and examination (S&E) team capable of producing quality S&E services expeditiously within publicised target timeframes, which should be equal to or better than that offered by the best in the world, and cost-efficiently.

4.2.5. It is recommended that Singapore continues to invest in building up S&E capabilities to achieve a compelling value proposition for patent owners:

- **Quality** – The standard of the S&E services must be best-in-class, in terms of the quality of prior art searches and assessment of patentability. An S&E report of good quality will give applicants the confidence that their resulting patent is validated to the best international benchmarks.
- **Speed** – The speed at which the S&E reports can be obtained must be fast. IPOS could set and publicise target timeframes for S&E reports to be produced. This will give certainty and attract applicants who wish to obtain an S&E report quickly, in order to expedite patent prosecution and grant at other IP offices, to first file in Singapore. Time is often of the essence for companies looking to commercialise or license out their IP, or facing legal disputes.
- **Cost efficiency** – The cost at which S&E reports can be obtained must be competitive in relation to other IP offices.

4.2.6. In addition, Singapore should strive to be recognised by WIPO as an International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA) under the Patent Cooperation Treaty (PCT). This would raise the profile of our S&E capabilities, and help build Singapore as an IP Hub capable of providing world-class S&E services.

**B. Provisional Patent Application System**

4.2.7. The Committee studied the provisional patent application systems of the US and Australia, which have gained favour amongst patent owners to whom obtaining a priority date quickly is important. The provisional patent application system is considered a cost-effective and flexible avenue for the filing of patent applications,

with the key features being the ability to secure a priority date quickly and at a lower drafting cost because the patent application can be filed without claims.

- 4.2.8. The Committee found that Singapore’s patent registration system shares the key features of the provisional patent application system. The cost of filing a patent application at IPOS is comparable to that of filing a provisional patent application at the USPTO. It is also possible for users to file a Singapore patent application without claims (i.e. a “provisional-type” application) in order to expeditiously secure a priority date, while saving on preliminary drafting costs. Table 4.1. provides a comparison between the US’ provisional patent application system and Singapore’s patent registration system.

*Table 4.1.: Comparison between the US’ provisional patent application system and Singapore’s patent registration system (as of Feb 2013).*

<b>Feature</b>	<b>The US’ provisional patent application system</b>	<b>Singapore’s patent application system</b>
<b>Cost</b>	Lower cost as compared to filing a non-provisional patent application.  Cost of provisional patent application for small / large entities = US\$125 / 250. <sup>26</sup>	Fixed cost.  Cost of filing a Singapore patent application = S\$160.
<b>Filing Requirements</b>	US provisional patent application can be filed without claims.	Singapore “provisional-type” patent application can be filed without claims.
<b>Publication</b>	The provisional application is <u>automatically</u> abandoned at the end of 12 months and not published.	The “provisional-type” patent application is <u>automatically</u> abandoned if the applicant does not file claims, and is hence not published.

<sup>26</sup> USPTO, last revised 21 Feb 2013. *Fee Schedule*.

Feature	The US' provisional patent application system	Singapore's patent application system
<b>Term of Protection</b>	The patent term end-point is 20 years from date of filing of a corresponding non-provisional application.	The patent term end-point is 20 years from date of filing of a second patent application with claims (i.e. the “non-provisional” patent application equivalent) claiming priority from the first “provisional-type” patent application. <sup>27</sup>

4.2.9. However, the Committee found that while the Singapore patent registration system offers the key features of the provisional patent application system, this is not well known to the general IP community. As a result, companies for whom securing a priority date quickly is important, perceive Singapore's patent registration system to be less attractive and file directly at other offices first.

4.2.10. The Committee recommends that Singapore profile more actively the availability and features of the “provisional-type” patent application route in Singapore's patent registration system. This could take the form of greater publicity through international IP conferences, publications and via the IPOS website.

### C. Support Schemes for IP Filings

4.2.11. The cost of filing an IP is not insignificant. We should seek to support and incentivise IP filings in Singapore, so as to increase the base load demand for IP services.

4.2.12. In this aspect, the Committee acknowledges that there are existing tax incentives for IP registration costs. Fees paid to any IP office, and fees paid to any agent for IP prosecution, preparation of specifications and validity or infringement advice are tax deductible at 100% under the Income Tax Act, and 400% under the Productivity and Innovation Credit (PIC) scheme<sup>28</sup>. Such schemes are commendable, as they help to encourage local companies and R&D institutes, as well as local subsidiaries of foreign MNCs, to file in Singapore.

<sup>27</sup> Similar to the US' provisional patent application system, in Singapore, the 20-year patent term is calculated from the date of filing of a second “non-provisional” patent application that claims priority from a first “provisional-type” patent application.

<sup>28</sup> Businesses can also choose to enjoy 60% cash payout under the PIC scheme.

### 4.3. INTERNATIONAL COLLABORATION WITH OTHER IP OFFICES

- 4.3.1. Singapore should build stronger collaborations with other IP offices, especially with the “IP Five” offices and those from emerging economies, to develop Singapore as a gateway to other key international markets. This could range from providing training support for patent agents and industry professionals from other countries, in collaboration with WIPO where useful, to collaborating with established offices like the European Patent Office (EPO) and the Japan Patent Office (JPO) to train S&E examiners from IPOS. This exchange of expertise will cross-fertilise IP practices across the world, and enrich the broader IP ecosystem and know-how in Singapore.

#### A. Patent Prosecution Highway (PPH)

- 4.3.2. The PPH is an arrangement that enables the sharing of S&E results between patent offices. Under the PPH, a patent application can enjoy accelerated examination using the S&E results of a corresponding patent application filed at a PPH-linked patent office. More recently, under the PCT-PPH programme, accelerated examination can be requested based upon work done by certain ISAs or IPEAs during the international phase of the PCT application.

- 4.3.3. The key advantages of the PPH are:

- **Cost savings** – Generally, less correspondence with the examiner is required for patent applications using PPHs. This translates to cost savings for the applicant.
- **Greater chance of successful patent grant** – On average, the success rate of patent applications using PPHs is higher.<sup>29</sup>
- **Reduced pendency** – PPHs can enable a patent application filed in particular jurisdiction to be fast-tracked based upon the S&E results generated by another patent office.
- **High quality** – PPHs enable the applicant to use the S&E results from a patent office recognised to produce work of a high quality. Also, PPHs enable the second office to have access to information gathered from additional databases (e.g. technical databases, local databases, databases in

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<sup>29</sup> For example, at the USPTO, more than 90% of PPH cases are allowed. The allowance rate for non-PPH cases at the USPTO is less than 50%.

other languages), thereby enhancing the quality of prior art assessment. This ultimately benefits the patent applicant.

- 4.3.4. The popularity of PPHs is growing around the world. In Singapore, PPHs have been established with the USPTO and the JPO in 2009. A third PPH with KIPO has commenced in Jan 2013. However, the use of Singapore's existing PPHs is low at present – this is likely due to the low awareness and appreciation by applicants on the advantages of the PPHs.<sup>30</sup> We should enhance the profile of our existing PPHs, and actively encourage the use of PPHs among companies in Singapore.

**Recommendation 3-2**

Build comprehensive international networks and collaborations with other IP offices to develop Singapore as a gateway to other markets.

- 4.3.5. Singapore should seek to grow our collaborations with other IP offices of comparable quality and standing. For example, Singapore should accelerate efforts in building a comprehensive network of PPHs, particularly with key IP offices such as the State Intellectual Property Office (SIPO) of the People's Republic of China. This is a mutually beneficial arrangement that would also benefit the partnering patent offices as it helps to reduce the workload and case backlog.
- 4.3.6. IP owners primarily file their IP in markets where there is commercial interest. However, a strong network of PPHs working in tandem with world-class S&E capabilities can help Singapore, despite our small domestic market, to grow as a choice venue for quality patent filings, where applicants can obtain cost-effective and quality S&E reports quickly to expedite patent prosecution in other national IP offices. This would add to the overall attractiveness of filing first in Singapore, and using Singapore as a gateway to enter other markets.
- 4.3.7. Singapore should also encourage foreign IP offices to set up a presence, as WIPO has done, and even offer substantive services, from here. This would allow foreign IP offices to better support their Asian clientele. This is particularly relevant given the growing volume of IP filings by Asian applicants, and with the liberalisation of Singapore's patent agent sector, the greater number of foreign-qualified patent agents serving Asian clients from Singapore in the future.

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<sup>30</sup> To date, there have been nine applications under the IPOS-USPTO PPH and eight applications under the IPOS-JPO PPH.

## **B. Collaboration within ASEAN**

- 4.3.8. Singapore as an IP Hub should seek to serve the needs of our ASEAN partners. Given the goal of establishing the ASEAN Economic Community by 2015, we can expect more trade flows within ASEAN. The ASEAN Working Group on Intellectual Property Cooperation (AWGIPC) was established to develop, coordinate and implement all IP-related regional programmes and activities in ASEAN, with its work guided by the ASEAN IP Rights Action Plan and the ASEAN Economic Blueprint.
- 4.3.9. With the current largest share of patents filed in ASEAN, Singapore should take the lead to foster stronger cooperation to facilitate the protection of IP within ASEAN countries. In this regard, the Committee is of the view that the ASEAN Patent Examination Cooperation (ASPEC) programme is a laudable first step. The ASPEC programme streamlines patent prosecution by allowing S&E work conducted by a participating IP office to serve as a reference to another participating IP office. This reduces duplication of S&E work, hence facilitating quicker patent prosecution and reducing time to patent grant. We should encourage the use of ASPEC programme, for example by increasing publicity among IP owners and practitioners to raise awareness about the benefits of the ASPEC programme.
- 4.3.10. Under the ASEAN IP Rights Action Plan, Singapore is the lead country for ASEAN capacity building for patent officers and attorneys. Hence, we should enhance the overall quality of the pool of patent professionals in ASEAN and support the overall capacity building needs of the region. We should leverage the IP Competency Framework (IPCF)<sup>31</sup> and work towards exporting the IPCF to benefit other countries looking to build up their IP manpower capabilities.

## **4.4. A STRONG AND VIBRANT PATENT AGENT SECTOR**

- 4.4.1. The commitment of many Asian countries to the continued and increased investment in R&D will increase the demand for IP protection in this region. As Asian-based companies venture into overseas markets, they will require the services of patent agents and firms with expertise in their markets of interest. If Singapore can build a strong and vibrant patent agent sector capable of providing high quality local and international patent services, we can attract more work to Singapore and grow the overall pie for our patent agent industry.
- 4.4.2. The liberalisation of Singapore's patent agent regulatory regime to allow foreign-qualified patent agents to undertake offshore work in Singapore will help to

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<sup>31</sup> Refer to Chapter 6 for more details.

deepen and broaden the available patent agent expertise in Singapore. The presence of foreign patent firms in Singapore will provide companies with increased access to international patent expertise, and boost the vibrancy of Singapore's patent agent sector.

- 4.4.3. Nonetheless, Singapore cannot rely solely on foreign-qualified patent agents; we must also continue to develop a strong core of Singapore-qualified patent agents. Growth in Singapore patent filings is expected as domestic R&D activity and output pick up across a wide range of technology disciplines, and as other IP Hub recommendations bear fruit. A world-class S&E team and PPH network will help attract more filings in Singapore which will need to be supported by a larger pool of Singapore-qualified patent agents. A larger pool of local patent agents will also help enrich the entire IP ecosystem as patent agents, with their specialised training and skill sets, can progress and inject talent into other fields of the IP industry. In the long run, Singapore-qualified patent agents should be encouraged to take stronger ownership in developing and raising their profession to the next level.

**Recommendation 3-3**

Grow a larger pool of Singapore-qualified patent agents with the necessary expertise to cater to the needs of international companies and attract more patent work to Singapore.

- 4.4.4. The Committee recommends that efforts be undertaken to grow the pool of Singapore-qualified patent agents. The current patent agent qualification and training regime should be enhanced with a view of developing a larger pool of Singapore-qualified patent agents with the necessary skill sets to support the future growth of the industry. The current system of training Singapore-qualified patent agents can be improved. While the current pass rates of the qualifying examinations and time required to qualify as a patent agent are reasonable compared to international benchmarks,<sup>32</sup> they can be daunting for engineering and science graduates who are considering joining the profession. Given the strong competition for talent in Singapore, we need to consider how the system can be improved to better draw high-calibre graduates and mid-careerists into the profession. To support training for patent agent trainees and attract new entrants into the profession, access to training programmes could be funded or subsidised, e.g. via scholarships.

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<sup>32</sup> The qualifying examinations comprise 4 papers covering the preparation of patent specifications, the amendment of patent specifications, the infringement and validity of Singapore patents, and the patent law in Singapore. Typically, patent agent trainees take about 4 years to pass all 4 papers.



4.4.5. Singapore-qualified patent agents should also be encouraged to broaden their expertise, e.g. through funded or subsidised continuing professional development. The marriage of patent agent skills with legal expertise and commercial know-how will command a higher premium in today's complex globalised operating environment, where companies' international business strategies are often inextricably tied to their IP strategy across different jurisdictions and IP regimes. Those with requisite legal qualifications can also provide legal services, including IP litigation, in addition to patent agency work. The availability of such talent and expertise will also strengthen Singapore's push to be a more attractive centre for IP-related alternative dispute resolution (ADR). Singapore-qualified patent agents must be able to provide Asian clients with a strong value proposition. They should expand their knowledge base beyond Singapore's patent laws, to include awareness and knowledge of the IP laws and practices of other countries, such as those of ASEAN countries. They can also differentiate themselves by going beyond conventional services like patent drafting and prosecution, to acquire skill sets in other value-added IP services such as patent landscape mapping, and patent portfolio analysis, to meet the needs of IP owners looking for "one-stop shop" services. These additional skill sets or qualifications can help provide multiple pathways for patent agents' career progression and development, and enrich the talent pool in our IP ecosystem in the long run.

## CHAPTER 5

### STRATEGIC OUTCOME 3: A HUB FOR IP DISPUTE RESOLUTION

**Strategy 4: Develop Singapore as a choice venue for IP dispute resolution, through a strong IP Court and deep IP alternative dispute resolution (ADR) capabilities.**

1. Enhance the profile and strengthen the capabilities of Singapore's IP Court to attract more IP litigation to Singapore.
2. Establish a panel of top international IP arbitrators in Singapore to enhance the international profile of Singapore's IP ADR capabilities and attract more IP-related ADR cases to Singapore.

#### 5.1. IP DISPUTE RESOLUTION: TRENDS AND OPPORTUNITIES

- 5.1.1. Globally, IP disputes are on the rise. In China alone, the number of civil IP cases accepted by the local Courts in 2011 was more than 59,000, up by approximately 40% as compared to 2010.<sup>33</sup> As the global economy becomes progressively knowledge-based and the technology landscape grows in complexity, IP assets will become more and more important to secure competitive and strategic advantages for companies. The global nature of modern business sees companies challenged by new rivals at an increasing frequency, not just in overseas markets but also within their home market. These factors will inevitably lead to more IP disputes.
- 5.1.2. IP disputes can be resolved through litigation or alternative dispute resolution (ADR) avenues such as arbitration and mediation. Companies are actively seeking expeditious, cost-efficient and just avenues to resolve their IP disputes. In Europe, Germany, Netherlands and the UK are recognised as the de facto "first stops" for companies to file litigation suits for their IP disputes, due to the quality and efficiency of the respective courts. In the UK, for example, the Patents Court and Patents County Court have implemented specialised procedures for IP cases, with active case management by specifically appointed IP Judges.<sup>34</sup> In particular, the Patents County Court is gaining favour among IP owners, largely due to the

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<sup>33</sup> Bridge IP Law, 2012. *China Supreme People's Court: Latest IPR Related Cases Data of 2011 in China*. <http://www.chinaiplawyer.com/china-supreme-peoples-court-latest-ipr-related-cases-data-2011-china/> (accessed Feb 2013).

<sup>34</sup> The Patents Court is a specialised Court within the Chancery Division of the High Court of Justice of England and Wales. The Patents County Court (PCC) is an alternative venue to the Patents Court, and was established with the intention that it should be a forum where simpler cases could be dealt with under a cheaper and more streamlined procedure.

streamlined procedures which have made case resolution faster,<sup>35</sup> and the high regard IP practitioners have for the current presiding Judge.

- 5.1.3. The ADR avenues of arbitration and mediation are gaining traction, albeit slowly, as viable options for IP dispute resolution. They provide parties with more control over the dispute resolution process and, if well managed, save parties time and money. In addition, the consensual nature of ADR often results in a less adversarial process, which is attractive for parties wishing to maintain a good business relationship. To date, the WIPO Arbitration and Mediation Centre (AMC) has administered over 280 mediation and arbitration cases, with most of the cases being filed in the last few years.<sup>36</sup>
- 5.1.4. Singapore should aim to develop itself as one of the world's leading IP dispute resolution centres. As more transactional and management activities take place in Singapore, stronger dispute resolution capabilities would be needed. Conversely, our ability to resolve IP disputes in an expeditious, just and amicable manner can also help attract more IP transactional and management activities.
- 5.1.5. Since IP rights are territorial, where the underlying IP is registered in Singapore, the natural consequence is for disputes concerning such IP to be litigated here. In this respect, our strategic goal to be a hub for IP dispute resolution will go hand-in-hand with the strategic outcome of being a hub for quality IP filings, which is aimed at attracting more IP filings to Singapore. At the same time, Singapore should also aim to position itself as a preferred choice for the arbitration of disputes involving IP that is not registered in Singapore.

## **5.2. POSITIONING SINGAPORE AS A CHOICE VENUE IN ASIA FOR IP LITIGATION**

- 5.2.1. While IP laws and judicial systems are territorial and sovereign in nature, a judgment issued by one country, particularly one with a respected judiciary, could potentially carry persuasive weight for the corresponding disputes in the courts of other countries. This could potentially provide reason for IP rights holders to litigate their IP disputes in Singapore, if Singapore can build an efficient, cost-effective and high quality judicial system to resolve such disputes.
- 5.2.2. Singapore is in good stead, having built a highly regarded judiciary, with an international reputation for quality judgments and efficiency. In February 2002,

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<sup>35</sup> The Civil Procedure (Amendment No. 2) Rules 2010 came into force on 1 October 2010. The amended rules brought in streamlined procedures and a fixed scale of costs, which is normally capped at £50,000.

<sup>36</sup> WIPO. *WIPO caseload summary*. <http://www.wipo.int/amc/en/center/caseload.html> (accessed Feb 2013).

Singapore established a specialist IP court within the High Court, in recognition that IP cases can be highly complex and technical in nature, and that the Judges handling such cases need to be familiar with the area of IP law. There are currently four designated IP Judges, namely Justice Tan Lee Meng, Justice Tay Yong Kwang, Justice Lee Seiu Kin and Justice Chan Seng Onn, each with substantial expertise and experience in handling IP cases<sup>37</sup>.

- 5.2.3. The IP Court has also adopted tailored processes to facilitate the resolution of IP cases, with the key features summarised in Table 5.1. below. A semi-docket system for IP cases was introduced in 2011 to allow for specialised management of IP cases. All IP cases are managed by a designated Senior Assistant Registrar who conducts all pre-trial conferences and hears all summonses for directions applications. A designated Assistant Registrar is also assigned to each IP case, and will hear and decide on all interlocutory applications, and conduct inquiries for post-trial assessment of damages or accounting of profits. Such continuity allows the Senior Assistant Registrar and Assistant Registrar to be familiar with their assigned IP cases, thus enabling significant time savings during proceedings.

*Table 5.1.: Key features of Singapore's IP Court.*

Pre-trial case management	Post-trial case management
<ul style="list-style-type: none"> <li>• Progress of IP cases separately managed and tracked.</li> <li>• More time allocated for pre-trial conferences of IP cases to deal with issues unique to IP cases.<sup>38</sup></li> <li>• Specific Senior Assistant Registrar / Assistant Registrar with IP experience and expertise or training assigned to each case for continuity.</li> <li>• Interlocutory appeals and trials on liability are heard before designated IP Judges (subject to availability).</li> </ul>	<ul style="list-style-type: none"> <li>• IP cases managed separately with more time allocated for post-trial conferences.</li> <li>• Limited post-trial discovery.</li> <li>• Tailored procedure for assessment of damages.</li> <li>• Tailored procedure for accounting of profits.</li> </ul>

- 5.2.4. The Committee has observed that the awareness of the establishment of the IP Court and designation of specific IP Judges is low among local and foreign

<sup>37</sup> There may be IP cases, such as those involving broader commercial disputes, that are heard by other Judges. Similarly, the four IP Judges may also hear other non-IP cases.

<sup>38</sup> For example: technical nature of scientific expert evidence; protection and ring-fencing of confidential information during discovery; and the specialised procedures for ascertaining the extent of infringement, particularly patent infringement.

practitioners and rights holders. More can be done to raise the profile of our IP Court and to continue strengthening its capabilities to hear IP cases.

**Recommendation 4-1**

Enhance the profile and strengthen the capabilities of Singapore's IP Court to attract more IP litigation to Singapore.

- 5.2.5. The Committee recommends stepping up efforts to raise the domestic and international profile of our IP Court and IP Judges. There should be sustained publicity, for example using international publications and events, to raise awareness of the capabilities of our IP Court. In addition, our IP Judges could contribute to international legal publications, and participate in relevant international conferences, to help raise the profile of our IP Court and assert thought leadership in the development of IP jurisprudence.
- 5.2.6. The Committee also recommends for Singapore to position itself as a choice venue for parties seeking to obtain a reference judgment for their global disputes. In this regard, the speed at which the judgment can be obtained and the quality of the judgment are critical. In line with plans to study the feasibility of establishing the Singapore International Commercial Court (SICC), the Government could consider whether IP disputes could feature in the SICC.
- 5.2.7. The Committee applauds the tailored processes adopted by the IP Court to facilitate the resolution of IP cases. The IP Court should regularly review these processes to keep pace with the best practices of IP Courts around the world and ensure expeditious disposal of IP cases. The Committee also recommends for the Court to consider the establishment of a specialised docket system (or case management system) for IP cases where IP Judges are assigned to IP cases at an earlier juncture. This would allow IP judges to build greater familiarity with their assigned IP cases from an early stage in the case management process, and thus enhance the efficiency of case disposal. In addition, the specialised docket system would also facilitate more IP cases being heard by designated IP Judges, and hence help to build greater IP experience within the bench.
- 5.2.8. The adjudication function of our IP Court can also be further supported, since IP cases can prove to be extremely challenging, particularly those involving patents, as it can involve highly technical and specialised expertise across a wide spectrum of technological disciplines. The Committee recommends that the Court more actively considers the appointment of amicus curiae and assessors to support its adjudication functions. Amicus curiae can aid the Court in understanding complex or technical areas of law, and Court-appointed technical experts, or assessors, can

assist with technical / scientific issues. The specialised docket system will also allow the IP Judges to make an assessment earlier and more accurately whether a case would require and benefit from the appointment of amicus curiae or assessors.

- 5.2.9. To increase the pool of local and foreign technical experts available, particularly for niche technology areas, Singapore should facilitate the access to technical experts to participate as assessors or expert witnesses in IP cases heard in the IP Court. In view of the feedback from local practitioners that such experts are not always easily identified, the Committee recommends establishing a directory of technical experts (both local and foreign) to increase the accessibility of these experts to IP practitioners and the Court. This directory should be maintained independently of the Court. It should be prepared in collaboration with IP practitioners and industry stakeholders to ensure its relevance and utility to industry.

### **5.3. PROMOTING THE USE OF ALTERNATIVE DISPUTE RESOLUTION FOR RESOLVING IP DISPUTES**

- 5.3.1. Strong economic growth in China, India, and the ASEAN region, has led to more commercial engagements and collaboration, and parties are starting to avail themselves of ADR avenues such as arbitration, mediation and expert determination to resolve disputes in an amicable manner.
- 5.3.2. Arbitration is typically used where parties want to avoid the time and cost of litigation, but at the same time want a decision based on the legal facts and evidence of the case. Mediation is a more informal process as compared to arbitration, where the focus is on moving the parties toward settlement through compromise and negotiation instead of solely based on the legal facts and evidence of the case. Both arbitration and mediation are well suited for resolving IP licensing and contractual disputes. In expert determination, a dispute is submitted, by agreement of the parties, to one or more experts who make a determination on the matter referred. Expert determination is a particularly flexible avenue as it may be used on a stand-alone basis or in connection with an arbitration, mediation or Court litigation case.
- 5.3.3. Nonetheless, the use of ADR to resolve IP disputes, particularly those involving validity and infringement issues, is still relatively uncommon. This may be due to the following reasons:
- Uncertainty of the arbitrability of IP disputes, particularly disputes involving IP validity, and the corresponding uncertainty of the enforceability of arbitral decision of such disputes, across different jurisdictions.

- Conventional preference and familiarity of parties of using litigation to resolve IP-related disputes.<sup>39</sup> This could be due to IP being territorial in nature.
  - Companies may favour going to Court depending on their international business strategies, for example to seek immediate injunctions on their competitors.
  - In most jurisdictions, the finality of an arbitral award limits the scope of appeal. Parties may prefer litigation due to the ability to appeal a court judgment.
- Lack of a contractual relationship between parties of IP disputes. More often than not, IP infringement disputes occur between parties without prior contractual relationship.

5.3.4. However, with the increase in collaborations between technology companies on R&D and commercialisation, there may be increasing contractual disputes on the creation, management and use of IP rights. The Committee is of the view that companies could increasingly turn to ADR avenues to resolve contractual and licensing-type disputes, especially those cross-border in nature, due to the duration, complexity and costs of court litigation.

5.3.5. ADR avenues can afford significant advantages over litigation. For example, arbitration allows cross-border business disputes to be addressed at a single arbitral forum. This is attractive given the multi-jurisdictional nature of commercial agreements and the complexity of navigating legal systems between different countries. International enforcement of arbitral awards are also facilitated through the *Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York Convention)*. In addition, well-managed ADR cases can often lead to significant cost savings.<sup>40</sup>

5.3.6. Singapore's ADR landscape has progressed significantly over the years. Our efforts to develop the arbitration scene in Singapore has paid off, with a 2010

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<sup>39</sup> WIPO, *Guide to WIPO Arbitration*.

<sup>40</sup> Court litigation costs in many countries can range from US\$65,000 to US\$4,000,000. Based on WIPO Arbitration and Mediation Centre's experience, average mediation costs range from US\$6,000 to US\$60,000. (WIPO, 2010. *A Cost-Effective Alternative*. [http://www.wipo.int/wipo\\_magazine/en/2010/01/article\\_0008.html](http://www.wipo.int/wipo_magazine/en/2010/01/article_0008.html) (accessed Dec 2012)).

collaborative study by White & Case LLP and the School of International Arbitration, Queen Mary University of London,<sup>41</sup> recognising Singapore as the most popular Asian seat for arbitration. In 2010, WIPO set up an AMC, the first office outside Geneva, in Singapore. The WIPO AMC provides avenues for the resolution of international commercial disputes between parties, and is recognised as a neutral, international forum for the resolution of cross-border and cross-cultural disputes. In addition to offering procedural dispute resolution guidance in choosing or adjusting dispute resolution clauses and administering procedures under WIPO Rules, the WIPO AMC also organises training on ADR of IP-related disputes.

- 5.3.7. Singapore's commitment to build IP ADR capabilities is also underscored by a Memorandum of Understanding signed between IPOS and WIPO in 2011, which allows parties to resolve IP disputes that involve ownership and validity of IP rights registered in Singapore via mediation at the WIPO AMC. IPOS is also looking to set up a team of IP expert adjudicators comprising eminent IP professionals to resolve IP disputes filed with IPOS. These procedures will increase the options available for parties to settle their disputes in Singapore.

**Recommendation 4-2**

Establish a panel of top international IP arbitrators in Singapore to enhance the international profile of Singapore's IP ADR capabilities and attract more IP-related ADR cases to Singapore.

- 5.3.8. The Committee recommends that Singapore establish a panel of arbitrators who are internationally acknowledged to be the "best-in-class" for IP cases, comprising eminent experts steeped in IP laws, IP industry practices and technological disciplines, to help draw more IP ADR cases to Singapore. Companies need to have utmost confidence in the credentials of these arbitrators to consider subjecting their disputes to arbitration. We should also more actively promote and publicise Singapore's IP ADR capabilities internationally, in close collaboration with the various ADR institutes in Singapore such as the WIPO AMC, the Singapore Mediation Center and SIAC.

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<sup>41</sup> White & Case, 2010. *2010 International Arbitration Survey: Choices in International Arbitration*. [http://www.whitecase.com/files/upload/fileRepository/2010International Arbitration Survey Choices in International Arbitration.pdf](http://www.whitecase.com/files/upload/fileRepository/2010International%20Arbitration%20Survey%20Choices%20in%20International%20Arbitration.pdf) (accessed Feb 2013).



## CHAPTER 6

### ENABLER 1: SKILLED MANPOWER RESOURCES NETWORKED TO THE REGION AND BEYOND

**Strategy 5: Build a globally competitive IP workforce that is equipped with specialised IP skill sets and networked to other markets, and support the continued professional development of IP professionals.**

1. Develop strategic areas of expertise under the IP Competency Framework (IPCF), with specific focus on, but not limited to, Patent Agents, IP Management Directors, IP Strategists and IP Valuation Analysts, and to serve as a training hub for IP professionals in the region to better create a strong network of IP skills and expertise across jurisdictions.
2. Seed interest in various IP career paths and develop understanding of IP from an early stage, so as to position the IP profession as a rewarding one.

#### 6.1. MANPOWER CAPABILITIES: LOOKING AHEAD

- 6.1.1. Human capital development in IP will be critical to support and sustain the key strategic outcomes of Singapore as a Global IP Hub in Asia. Singapore is already ahead of other countries in producing world-class IP manpower capabilities, given the high quality of its workforce with a strong background in science and technology, and linguistic abilities. We should ride on these advantages to build a strong pool of IP expertise in strategic, market-relevant disciplines that will be instrumental in the future growth of the global IP landscape. Given that it will take time to strengthen the talent flow and nurture expertise in the IP sector, we must adopt a forward looking and proactive approach to ensure that the manpower capabilities are in place when the demand for IP services picks up.
- 6.1.2. Importantly, as a bona fide IP Hub, our professionals in Singapore must be knowledgeable about the IP environments and be plugged into the network of Asian markets and beyond. They must interact and build strong linkages with established professionals, firms and industry in other markets in order to effectively serve the international needs of companies. Singapore should serve as a training hub for IP professionals in the region to better support the integration of IP skills and expertise across jurisdictions. Our strengths of having a multilingual workforce and ability to aggregate different linguistics capabilities can also be leveraged to help translate and access the non-English body of IP literature in Asia. This would further strengthen our role as an IP gateway for Asia.

## 6.2. IP COMPETENCY FRAMEWORK

- 6.2.1. The IP Competency Framework (IPCF) has been developed by IPOS to define the competencies required for key IP professionals and practitioners in the industry, and to accredit the attainment of these competencies into Continuing Professional Development qualifications recognised by the industry. The IPCF covers a wide range of IP expertise, and a brief summary of these job roles is provided in Figure 6.1.

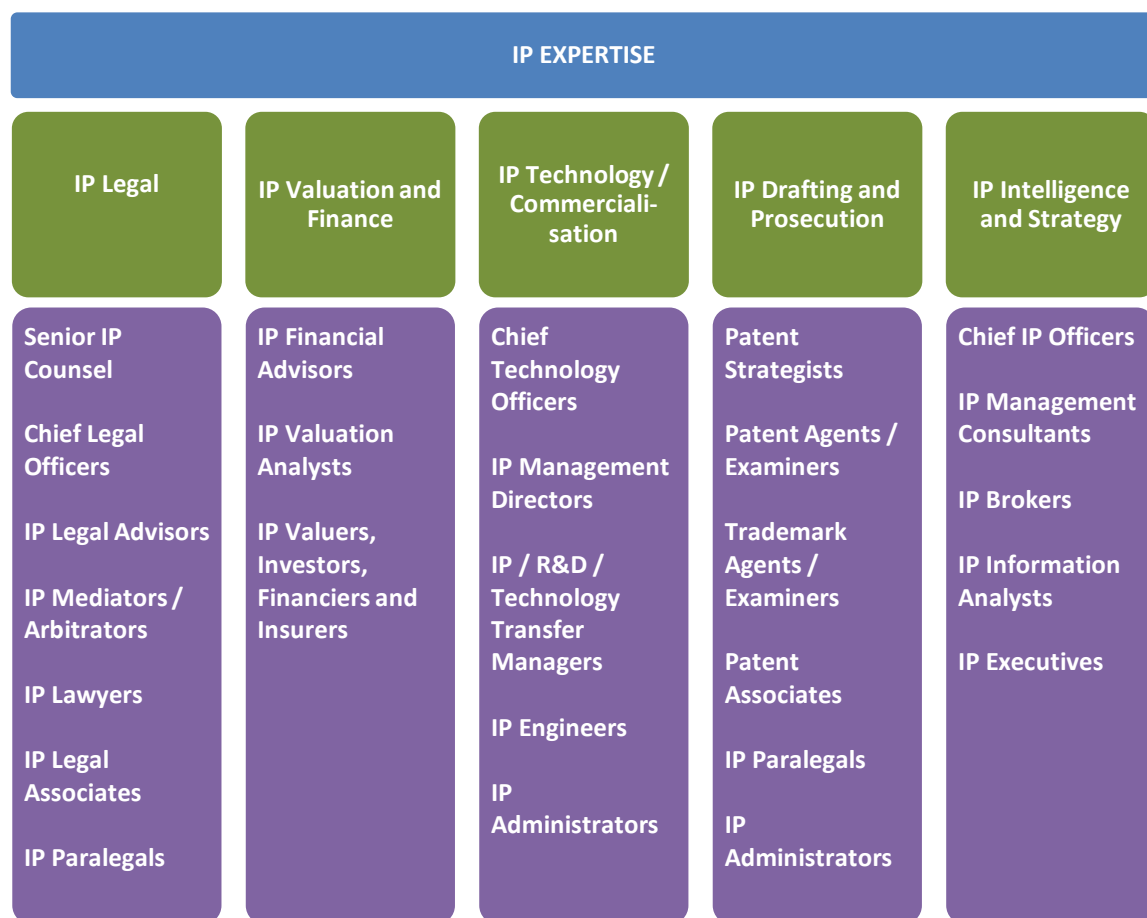


Figure 6.1.: Summary of IP expertise under the IPCF.

- 6.2.2. A holistic IP ecosystem will need to be supported by a comprehensive pool of professionals across the IP value chain. Based on industry feedback, Singapore's IP and innovation sectors would benefit if there were stronger expertise in the commercialisation aspect of the value chain. This would include Technology Transfer Managers (translating research areas and early stage technologies into new products through prototyping and commercialisation) and IP Managers (having a keen understanding of technology and negotiating licensing agreements to bring new technologies to the market). It is encouraging that the development of these professionals will be covered under the IPCF.

- 6.2.3. The IPCF provides tailored and structured multi-disciplinary training pathways for IP professionals, new entrants and even mid-careerists. Multiple career pathways are articulated for both lateral and vertical career advancement. Hence, this framework maps out opportunities for professionals to explore and maximise their potential across different disciplines (e.g. business, finance, technical, legal, etc.), in various job roles across the IP sector.

*Box 6.1: Illustration of multiple pathways offered by the IPCF.*

<b>Example: Options for Technical Specialists</b>
Technical specialists in R&D-related fields, e.g. researchers, scientists and engineers (RSEs), can undergo customised IP technology advisory training programs in IP management, technology transfer and R&D management to move laterally and / or advance vertically, eventually becoming R&D managers and so on. Those keen on further advancement could focus on training to take on higher-level technical advisory and business development roles. They could also consider alternative career paths for other IP job roles such as Patent Agents or Patent Examiners.

- 6.2.4. Given the backdrop in Asia and ASEAN, there will be strategic areas of manpower expertise that Singapore should develop in order to gain a strong competitive edge over other countries. These are specialised skill sets highly sought after by companies and IP service providers looking to establish operations in Singapore, as well as offshore firms aiming to protect, commercialise and actively manage their IP in Asia.

**Recommendation 5-1**

Develop strategic areas of expertise under the IP Competency Framework (IPCF), with specific focus on, but not limited to Patent Agents, IP Management Directors, IP Strategists and IP Valuation Analysts, and to serve as a training hub for IP professionals in the region to better create a strong network of IP skills and expertise across jurisdictions.

- 6.2.5. Singapore should invest in developing a broad range of expertise spanning different areas of the IP value chain. Among these, there should be a strong focus on (but not limited to) the following areas of specialisation:
- **Patent Agents** — Act for clients in the drafting and prosecution of patents and render advice on patentability of clients' inventions. As mentioned in Chapter 4, there is scope to grow a larger pool of quality patent agents with knowledge of IP laws and practices of other countries and skill sets that extend beyond conventional services such as patent drafting and

prosecution.

- **IP Management Directors** — Experts with a strong background in technology and business experience who guide companies to extract maximum value from their IP. These professionals can appreciate the technicalities of IP (e.g. patent claims), and at the same time bring technology foresight and market intelligence to bear in the exploitation of IP.
- **IP Strategists** (IP Financial Advisors; Chief Technology Officers; Patent Strategists; Chief IP Officers) – Professionals at a higher level managerial / executive role with experience in law, technology and business who are able to assess, refine and implement a company's overall IP plans (e.g. protection, commercialisation, enforcement). They also formulate and manage the company's overall portfolio development and corporate strategies, business priorities and collaboration with technology and business leaders.
- **IP Valuation Analysts** – Provide financial analysis and valuation of a company's IP rights (intangible assets) to develop and implement strategies and processes for managing IP portfolios. These professionals also provide consultation involving IP valuation (e.g. valuation of IP for business dealings such as investments or divestitures), and conduct feasibility studies, royalty rate studies and business due diligence.

6.2.6. Mid-level job roles under the IPCF should be developed to allow IP professionals to eventually move upwards or to provide specialised support to the four strategic areas of focus listed above. These roles include IP / R&D / Technology Transfer Managers, IP Management Consultants, IP Brokers, IP Information Analysts, IP Valuers, Investors, Financiers and Insurers.

6.2.7. The IPCF should also aim to develop the legal and administrative IP services sector by ensuring the availability of a sufficient pool of quality professionals such as Chief Legal Officers, IP Legal Advisors, IP Mediators / Arbitrators, IP Legal Associates, IP Paralegals and IP Administrators to support the increased volume of IP-related activities in future.

6.2.8. The IPCF should be constantly updated to reflect the strategic skill sets required to drive the development of Singapore as a Global IP Hub in Asia. IPOS should continue to work with industry partners to refine and update the framework, and also to design and deliver continuing education programmes and opportunities for

lateral movement and vertical progression. Training should also be supplemented with industry attachments to gain hands-on experience. The Government should devote the necessary resources and investment to support the development of critical IP human capital in Singapore, and to build Singapore as an IP training hub for the region.

- 6.2.9. Additionally, Singapore should promote the IPCF and associated training programmes, to support other countries in building up their IP manpower capabilities. There is potential for synergistic collaborations, to draw a wider group of trainers in the region who are steeped in this industry. Through increased interaction between local and international IP professionals, there would be opportunities for international IP professionals to train local professionals, and vice versa, to foster a stronger understanding of IP regimes across jurisdictions and promulgate best practices. Singapore should serve as an IP training hub for the region, and as a key node for IP professionals and stakeholders to network through such capability development efforts.
- 6.2.10. As the skill sets of the IP professionals are highly specific, cross-disciplinary, and need to be supported by substantive experience, it will take significant time to grow a local pool of IP professionals. In the interim, Singapore should also look towards attracting experienced international IP professionals to shore up expertise and knowledge, train local professionals, and bring their international work to Singapore.

### **6.3. POSITIONING THE IP PROFESSION AS A REWARDING CAREER**

- 6.3.1. In line with the efforts to develop strong IP expertise to support our IP ecosystem, Singapore should endeavour to imbue a higher level of professional pride amongst the various IP professionals. Many IP professionals in countries like Germany, Japan, the UK and the US are highly regarded and recognised to provide valuable expertise to companies in their business transactions and IP protection. In this regard, the Committee supports IPOS' move to amend legislation to adopt the term "Patent Attorneys" for Patent Agents, to accord them due recognition for their professional standing.
- 6.3.2. Singapore needs to ensure that there is a steady pipeline of talent feeding into the IP ecosystem. The Committee is aware that polytechnics and universities currently offer courses and degree programs that feature IP-related education. For example, IPA-NUS run a Master of Science in Intellectual Property Management, while NTU conducts a Master of Science in Technopreneurship & Innovation and Renaissance Engineering Programme where IP management constitutes a compulsory module

for students. Some polytechnics also conduct modules that cover basic principles of IP management and protection.

- 6.3.3. Nonetheless, the Committee feels that there is a general lack of awareness of IP professions among our students and more could be done to engage them from an early stage.

**Recommendation 5-2**

Seed interest in various IP career paths and develop understanding of IP from an early stage, so as to position the IP profession as a rewarding one.

- 6.3.4. We should aim to develop some level of understanding of the IP fields and professions, and instil IP savvy early amongst our graduates and pre-tertiary students, to ensure that they are equipped with the basic knowledge required to manage intellectual capital. The Committee recommends that Government start scholarship schemes to encourage students to pursue IP-related careers. IPOS should also try to work with the industry to raise awareness of the various professions in the IP sector and the understanding of issues in IP disciplines, amongst graduates and students.

## CHAPTER 7

### ENABLER 2: A CONDUCTIVE AND PROGRESSIVE ENVIRONMENT FOR IP ACTIVITIES

**Strategy 6: Enhance the tax environment to attract and anchor IP portfolios and substantive management activities.**

1. Implement an IP Box or similar tax regime to provide greater transparency and certainty in Singapore's IP tax regime.

**Strategy 7: Nurture a progressive environment that shapes and promotes IP thought leadership, and builds international perception.**

1. Establish flagship IP and innovation-related conferences and host international IP conferences in Singapore, to advance and enrich IP discourse in Asia.
2. Convene an international advisory panel to guide the development of Singapore as a Global IP Hub in Asia.
3. Encourage more Asia-centric, multi-disciplinary IP research in Singapore.

#### 7.1. A RICH ECOSYSTEM OF IP ACTIVITIES

- 7.1.1. Beyond skilled resources, it is equally important to have a conducive and progressive environment to encourage companies and professionals from around the world to bring their IP activities to Singapore. Creating this broader appeal is pivotal, given that IP assets, professionals and activities are highly mobile. We need to continually draw the movers and shakers of the corporate world to Singapore to participate in our IP ecosystem, in order to cement our position as a hive of regional and global IP activities. This includes key decision makers shaping the overall IP direction of businesses, established IP service providers, eminent IP academics and researchers, IP investors, as well as IP creators. The various stakeholders would be able to interact and collaborate with each another in a complementary and synergistic manner, and create a rich IP ecosystem that would strengthen international perception of Singapore as a world-class IP Hub.

#### 7.2. ATTRACTING IP PORTFOLIOS AND MANAGEMENT FUNCTIONS THROUGH A COMPETITIVE IP TAX ENVIRONMENT

- 7.2.1. To attract a larger pool of IP assets and professionals, Singapore should create a favourable environment for IP portfolio and management functions. IP owners, e.g. Apple, HP, IBM, McDonalds and Qualcomm, can generate significant revenue from licensing and sale of their IP. Such activities are usually managed by a team of professionals who drive the companies' strategy (e.g. monetising IP, strategic

acquisition of IP assets, enforcement of IP rights). Hence, attracting more companies and intermediaries to manage their IP portfolios and site IP management functions in Singapore will add greatly to the IP ecosystem in terms of high-end employment creation and creating knock-on demand for IP support services.

- 7.2.2. Singapore already enjoys a compelling set of attributes of being a trusted, neutral node and a vibrant city with strong IP protection regime. Singapore is home to more than 37,000 international companies, and over 60% of the MNCs have their global or regional headquarters here, together with senior “C-suite” management, as well as key corporate functions like strategic business planning and R&D.
- 7.2.3. Singapore should leverage this high concentration of MNCs to develop itself as the hub for companies to aggregate their regional, or even global, supply of and demand for IP rights. The C-suite executives, especially executives like the Chief IP Officers, Chief Technology Officers, and Chief Legal Officers, support and drive the development and implementation of IP-related product / market strategies. Consequently, we should attract and reach out to these professionals to do more out of Singapore. This will also maximise the synergies between the IP, technology, business and legal aspects of the companies in a holistic fashion, given the strengths of these supporting industries in Singapore. If we can harness this opportunity, Singapore can be one of the key locations in Asia for both the sale and procurement of IP assets, licenses and franchises.
- 7.2.4. With globalisation, companies are constantly looking at how they can structure their IP business functions across various jurisdictions to best support their international operations and gain maximum strategic advantage, with the tax environment often being one of the major considerations. In recent years, several countries have implemented various tax measures to encourage, attract and anchor downstream IP activities. A number of countries, mainly in Europe, have enacted the IP Box regime which provides for a reduced effective tax rate on qualifying income from IP, including patents, trademarks and copyrights. They include France (2001), China (2005), Belgium (2007), Netherlands (2008), and the UK (2013). As companies become more mobile, we need to make our IP-related tax system a more competitive one.
- 7.2.5. Singapore has likewise introduced several IP-specific tax measures to promote IP transaction and management activities, thereby attracting foreign investments:
  - Automatic writing down allowance for acquisition of IP;



- Unilateral tax credit for royalty income to offset withholding tax liabilities with countries without a double tax agreement with Singapore;
- Lower withholding tax on royalty payments;
- EDB's Development and Expansion Incentive (DEI) scheme that provides concessionary tax rates on qualifying IP income for substantive activities in Singapore.

7.2.6. Singapore also has an extensive Double Taxation Agreement (DTA) network with our major trade partners, which reduces withholding tax on royalties. Nonetheless, in the face of increased global competition as countries start to expand their DTA networks, Singapore should study whether our current tax regime remains attractive to technology, franchising and licensing companies, and whether more enhancements are required to strengthen our position as a choice destination from which to transact, manage and commercialise IP.

**Recommendation 6-1**

Implement an IP Box or similar tax regime to provide greater transparency and certainty in Singapore's IP tax regime.

7.2.7. The Committee recommends that the Government adopt an IP Box or equivalent tax regime, even for IP not created in Singapore. The Committee notes that EDB's DEI scheme also incentivises IP-related income such as licensing revenue and trading gains, and has been successful in attracting MNCs to manage their IP portfolios from Singapore. However, this can be enhanced with a broad-based scheme like the IP Box which confers greater transparency and certainty on the tax incentives. It also sends a strong signal of the Government's commitment to develop Singapore into a Global IP Hub in Asia and grows Singapore's global IP reputation. To enjoy the tax benefits of the IP Box, IP owners must have substantive management and decision-making functions anchored here.

### **7.3. A PROGRESSIVE IP ENVIRONMENT THAT PROMOTES ADVANCED IP THINKING**

7.3.1. We must aim to build an environment that reflects a progressive and forward looking approach in all aspects of the IP discipline. Singapore should seek to be the hotbed where innovative IP business models and services, or innovations themselves, especially those targeting the Asian market, are tested and launched. With its global and regional interconnectedness, Singapore should seek to be the Asian nexus for discourse and research on the latest global and regional IP trends and developments, and how IP regimes, businesses and services should adapt and

evolve. Embracing a progressive outlook would make for a vibrant and exciting IP environment that is at the forefront of latest developments, and allow Singapore to continually engage the IP community. Such an environment would attract a wide variety of IP activities onshore, and equally importantly, enhance Singapore's international visibility and reputation as an IP Hub.

#### A. IP Conferences

- 7.3.2. Conferences provide an ideal platform for interaction between key thinkers and stakeholders, allowing for greater sharing of knowledge and enrichment of IP thinking in Singapore. Conferences also add to the perception-building of Singapore as an advanced, forward looking hub for IP activities and developments. It further allows various international IP stakeholders to gain an appreciation of the environment in Singapore, and network with and build linkages with Singapore-based IP industry players.
- 7.3.3. Singapore had previously organised the *WIPO Diplomatic Conference for the Adoption of a Revised Trademark Law Treaty*, which culminated in the adoption of the Singapore Treaty on the Law of Trademarks. In addition, Singapore has been actively organising IP events such as the biennial *Global Forum on Intellectual Property (GFIP)* and the inaugural *IPWeek@SG* which includes the *Intellectual Property Management for C-Suite Seminar (IPMCS)*, the *Europe-Asia Patent and Patent Information Conference (EAP<sup>2</sup>IC)*, and the *ASEAN Working Group on Intellectual Property Cooperation (AWGIPC)*.

##### **Recommendation 7-1**

Establish flagship IP and innovation-related conferences and host international IP conferences in Singapore, to advance and enrich IP discourse in Asia.

- 7.3.4. Singapore should develop its own flagship event by organising an annual world-class IP conference that advances regional or international interest in IP. Such a flagship event could also be an ideal avenue for Singapore's IP Judges to assert thought leadership on IP jurisprudence, and for the international advisory panel (see paragraphs 7.3.7 – 7.3.8) to share their insights. The event could be accomplished by building on the foundation of the GFIP, and benchmarked against existing top-notch events such as the *World Cities Summit* and *Singapore International Water Week*.
- 7.3.5. The development of IP thinking can also be directed further upstream, in terms of innovation and the creation of IP itself. Singapore could organise a world-class innovation and invention conference, similar to the biennial *Euroscience Open*

*Forum*, an interdisciplinary, pan-European event which showcases recent advancements in science and technology. Such a conference would strengthen perceptions of Singapore as a location for innovation and inventions, which is a key pillar of our knowledge-based economy and our distinctive strength compared to other IP hubs.

- 7.3.6. In addition to Singapore-organised conferences, the Government should also attract existing major global IP conferences to be hosted in Singapore, with leading international IP experts as speakers, to draw a wider international audience to its shores.

## **B. International Advisory Panel**

- 7.3.7. Developing Singapore as an IP Hub will be an ongoing and dynamic process since the IP landscape is likely to continue developing and shifting rapidly, especially within the region. There would be a need for the constant re-examination and re-calibration of strategy and priorities in response to global developments. This needs to be guided by industry perspectives and insights, given the highly specialised and often confidential nature of IP transactions and activities.

### **Recommendation 7-2**

Convene an international advisory panel to guide the development of Singapore as a Global IP Hub in Asia.

- 7.3.8. The Committee recommends for an international advisory panel to be convened to advise and guide Singapore's development as an IP Hub. Panel members should comprise eminent individuals worldwide from a range of backgrounds pertinent to IP. Being able to aggregate this wealth of experience and knowledge would not only benefit Singapore's development as an IP Hub, but also generate invaluable insights that can influence the global IP landscape.

## **C. IP Research**

- 7.3.9. Beyond being a venue to facilitate international IP discourse, Singapore must also participate more actively and contribute to advancement of the body of IP knowledge and thought leadership.

### **Recommendation 7-3**

Encourage more Asia-centric, multi-disciplinary IP research in Singapore.

- 7.3.10. In particular, Singapore should look towards progressively building up a substantial body of Singapore-originated IP knowledge. With Singapore's geographical proximity to key IP markets in Asia, our IP research should adopt an Asia-centric perspective to contribute to the existing body of IP jurisprudence. It should be multi-disciplinary and evidence-based, focusing on topics useful to industry and policy makers. Research grants and incentives can be given for researchers to embark on research topics such as the interoperability of Asian IP regimes and the development of IP jurisprudence in Asia. In addition to academics, we would do well to also involve industry players, economists, practitioners and stakeholders in IP research, so as to infuse a stronger practice-based element in our research output that is reflective of our stakeholders' experience in providing IP services and dealing with IP in Asia.
- 7.3.11. The Committee has observed that current research publications tend to be US and Europe-centric. Feedback was received that it is more difficult for IP research originating from Asia, particularly those focused on IP in an Asian context, to be published in these journals. Given the significant growth and development of the IP landscape in Asia, it would be worthwhile to support an Asia-centric IP publication which showcases research from the region and gives a stronger voice to Asian IP research.

## CHAPTER 8

### CONCLUSION

- 8.1. The global IP landscape is at an inflexion point in its development, and the next decade will be an important one for the IP industry. There will be tremendous growth across the IP value chain, and a continued proliferation of new ways of exploiting and monetising IP.
- 8.2. The development of the IP Hub Master Plan is but the start of a journey. It will not be possible to project the future directions of the IP landscape, and indeed there are uncertainties. How the rise in IP litigation would impact innovation and policy; the sustained growth and development of China's IP industry; the geopolitics within Asia Pacific and how that would affect corporate strategy, etc. – all of these will mould and transform the global IP landscape in the years ahead.
- 8.3. Nonetheless, some broad mega trends are clear. As the global economy transits to becoming a more knowledge-based one, IP will occupy an increasingly pivotal position as a driver of business performance and economic growth. The new battleground for economic prowess will go beyond the mere creation of ideas and knowledge, and hinge on the harnessing and exploitation of such intellectual capital to the fullest. Considering the rise of Asia, the future growth story in IP will progressively shift towards the East. It is also evident that IP transactions will become even more transnational. Asia will need a trusted location to do business, protect its IP assets, and support its needs in IP services – Singapore can play this role well.
- 8.4. Singapore should be open to and proactively seek new possibilities, and be bold in our approach to seize the next wave of opportunities in Asia and beyond. We have always been able to leverage our strengths and serve as a key node to support global flows with great success – be it in terms of goods, people or capital. We already have a strong foundation to evolve a vibrant IP ecosystem that we could build on to capture the flow of ideas. If we can continue to be forward looking and act nimbly, we can ride on the growth of IP in the years to come, and stay relevant and interconnected, as a pre-eminent Global IP Hub in Asia.

## ANNEX A: IP STEERING COMMITTEE MEMBERS

<u>S/N</u>	<u>Name</u>	<u>Designation</u>
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**Chairman:**

1.	Mr TEO Ming Kian	Chairman, MediaCorp Pte Ltd
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**Members (in alphabetical order):**

Co-Chairs of Sub-Committee 1:

2.	Mr Magnus BOCKER	Chief Executive Officer, Singapore Exchange
3.	Mr Viktor CHENG	Deputy Chief Executive (Infrastructure and Capability Development Group / Corporate Services Group), Intellectual Property Office of Singapore

Co-Chairs of Sub-Committee 2:

4.	Dr Stanley LAI, SC	Head of Intellectual Property Practice, Allen & Gledhill LLP
5.	Ms Danielle YEOW	Senior State Counsel, International Affairs Division, Attorney-General's Chambers (wef 1 Jul 2012);  Deputy Chief Executive (Registries Group / Legal Policy & International Affairs Department), Intellectual Property Office of Singapore (till 30 Jun 2012)

Other members:

6.	Mr FONG Saik Hay	Chief Technology Officer, Singapore Technologies Engineering Ltd; President, ST Dynamics Pte Ltd
7.	Mr KEOY Soo Earn	Partner - Head of M&A Transaction Services and Valuation Services, Singapore and Southeast Asia, Deloitte & Touche LLP
8.	Prof LOW Teck Seng (replaced Dr Francis YEOH wef 20 Jul 2012)	Chief Executive Officer, National Research Foundation
9.	Mr LU Yoh Chie	Chairman, Biosensors International Group Ltd

<u>S/N</u>	<u>Name</u>	<u>Designation</u>
10.	Mr Suresh SACHI <i>(replaced Prof LOW Teck Seng wef 20 Jul 2012)</i>	Deputy Managing Director & General Counsel, Agency for Science, Technology and Research
11.	Mr TAN Yih San	Chief Executive, Intellectual Property Office of Singapore
12.	Mr Eric THAM	Managing Director and Head, Group Commercial Banking, United Overseas Bank Ltd
13.	Ms Valerie THEAN <i>(replaced Mr Hugh LIM wef 1 Nov 2012)</i>	Deputy Secretary, Ministry of Law
14.	Prof TSUI Kai Chong	Provost, SIM University
15.	Mr YEOH Keat Chuan <i>(replaced Dr BEH Swan Gin wef 1 Jul 2012)</i>	Managing Director, Economic Development Board

## ANNEX B: IP SUB-COMMITTEE MEMBERS

### B.1. IP Sub-Committee 1 on “Developing a vibrant marketplace for IP transaction and commercialisation”

<u>S/N</u>	<u>Name</u>	<u>Designation</u>
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#### Co-Chairs:

- |    |                  |  |
|----|------------------|--|
| 1. | Mr Magnus BOCKER | Chief Executive Officer, Singapore Exchange  |
| 2. | Mr Viktor CHENG  | Deputy Chief Executive (Infrastructure and Capability Development Group / Corporate Services Group), Intellectual Property Office of Singapore |

#### Members (in alphabetical order):

- |     |                   |   |
|-----|-------------------|---|
| 3.  | Ms CHEW Mok Lee   | Assistant Chief Executive, Entrepreneurship & Innovation, SPRING Singapore              |
| 4.  | Mr Jayson GOH     | Executive Director, Infocomms & Media, Economic Development Board                       |
| 5.  | Mr Linus GOH      | Executive Vice President, Head of Global Commercial Banking, OCBC Bank                  |
| 6.  | Dr LIM Kiang Wee  | Executive Director, IPI   |
| 7.  | Mr Philip LIM     | Chief Executive Officer, Exploit Technologies Pte Ltd                                   |
| 8.  | Mr NG Nam Sin     | Assistant Managing Director, Development Group, Monetary Authority of Singapore         |
| 9.  | Mr Guy PROULX     | Managing Director, Transpacific IP  |
| 10. | Mr Terence SEOW   | Assistant Chief Executive Officer, International Enterprise (IE) Singapore              |
| 11. | Mr Brett SHADBOLT | Chief Executive Officer, Censere Group  |
| 12. | Mr Eric THAM      | Managing Director and Head, Group Commercial Banking, United Overseas Bank Ltd          |
| 13. | Prof WONG Poh Kam | Director, NUS Entrepreneurship Centre, NUS Enterprise, National University of Singapore |



<u>S/N</u>	<u>Name</u>	<u>Designation</u>
14.	Dr WONG Woei Fuh	Managing Director, IP & Science, Rest of Asia Pacific, Thomson Reuters
15.	Ms Audrey YAP	Managing Partner, Yusarn Audrey

## **B.2. IP Sub-Committee 2 on “Building world-class IP capabilities and infrastructure”**

<u>S/N</u>	<u>Name</u>	<u>Designation</u>
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### **Co-Chairs:**

- |    |                    |  |
|----|--------------------|--|
| 1. | Dr Stanley LAI, SC | Head of Intellectual Property Practice, Allen & Gledhill LLP   |
| 2. | Ms Danielle YEOW   | Senior State Counsel, International Affairs Division, Attorney-General’s Chambers (wef 1 Jul 2012);<br><br>Deputy Chief Executive (Registries Group / Legal Policy & International Affairs Department), Intellectual Property Office of Singapore (till 30 Jun 2012) |

### **Members (in alphabetical order):**

- |     |                        |   |
|-----|------------------------|---|
| 3.  | Prof Casey CHAN        | Partner, VentureMD  |
| 4.  | Dr Lily CHAN           | Chief Executive Officer, NUS Enterprise, National University of Singapore   |
| 5.  | Ms CHIAM Lu Lin        | Deputy Chief Executive (Hearings & Mediation Group / Capacity Building Group), Intellectual Property Office of Singapore  |
| 6.  | Prof HANG Chang Chieh  | Head, Division of Engineering & Technology Management, Faculty of Engineering, National University of Singapore   |
| 7.  | Prof David LLEWELYN    | Professor of Law (Practice), School of Law, Singapore Management University   |
| 8.  | Mr Daniel POH          | Partner, Marks & Clerk Singapore LLP  |
| 9.  | Mr Suresh SACHI        | Deputy Managing Director & General Counsel, Agency for Science, Technology and Research (wef 20 Jul 2012);<br><br>General Counsel, Agency for Science, Technology and Research (till 19 Jul 2012) |
| 10. | Prof Anilkumar SAMTANI | Associate Professor of Law, Nanyang Business School, Nanyang Technological University   |
| 11. | Ms Jo-Ann SEE          | Director, Amica Law LLC   |

<u>S/N</u>	<u>Name</u>	<u>Designation</u>
12.	Mr Sivananthan SIVAGNANARATNAM	Vice President, Legal Services, Creative Technology Ltd
13.	Mr Kevin THESEIRA	Managing Counsel, Agilent Technologies Singapore Holdings Pte Ltd
14.	Dr Richard WOODLING	Director, Global R&D Center, Siemens Pte Ltd
15.	Mr Kelvin WONG	Executive Director, Logistics, Professional Services and International Organisations Programme Office, Economic Development Board

## ANNEX C: TERMS OF REFERENCE

<u>Committee</u>	<u>Terms of Reference</u>
IP Steering Committee	To oversee the development of a Master Plan that will develop Singapore as an Asian IP Hub, well-supported by a comprehensive suite of world-class IP services and served by an efficient and modern IP infrastructure.
Sub-Committee 1 on “Developing a vibrant marketplace for IP transaction and commercialisation”	<p>To recommend strategies to:</p> <ul style="list-style-type: none"><li>• Build a vibrant marketplace in Asia for the transaction and commercialisation of IP.</li><li>• Facilitate and encourage greater IP exploitation by companies.</li></ul>
Sub-Committee 2 on “Building world-class IP capabilities and infrastructure”	<p>To recommend strategies to:</p> <ul style="list-style-type: none"><li>• Expand and deepen the expertise of our IP professionals and practitioners in strategic areas of the IP services sector.</li><li>• Enhance Singapore’s IP infrastructure, including dispute resolution capabilities, to facilitate the protection and registration of IP in global markets.</li><li>• Promote excellence in IP research and thought leadership.</li></ul>