

**ESC SUBCOMMITTEE
SEIZING GROWTH OPPORTUNITIES**

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Introduction

1. Globalisation, technological and demographic changes, along with changing consumer preferences, are continuing to shape the development of the global economy. New avenues for competition, collaboration and innovation are opening up. Rapid urbanisation is taking place amid rising concerns over the environment and resource constraints. The UN expects the urban population globally to nearly double from 3.3 billion (2007) to 6.4 billion (2050) with more than half of this increase to take place in Asia¹.

2. The economic and financial crisis of 2008 could also lead to a number of near-term challenges. The deleveraging of financial systems could cause credit constraints for companies in the recovery phase. Greater government intervention in the financial system and rising unemployment may trigger trade and financial protectionism. At the same time, rising government spending in advanced economies is raising concerns over the sustainability of public sector deficits and growing debt levels. In comparison, the balance sheets of households, corporations and governments in emerging economies are generally healthier.

3. Amid these changes, a re-balancing of the global economy is taking place, though the pace of progress may be uneven. Emerging economies, especially those in Asia, are expected to grow in terms of their share of global production and consumption. Asia will be both a significant production base as

¹ UN World Urbanisation Prospects: The 2007 Revision.

well as a growing market for goods and services. Nevertheless, advanced economies will still remain important given their technological edge and large global share of GDP today.

4. As a global city in the heart of Asia, Singapore is well positioned to appreciate the implications of these challenges, and to seize the new growth opportunities that may arise. Singapore must continue to maintain and enhance our business-friendly environment, open economy, trusted brand, and strong rule of law. In addition, we need to be swift and nimble in building new capabilities, both in existing clusters, as well as in new areas. The continual upgrading of the Singapore economy over the past four decades has given us a strong foundation to make the next transformation, and to build strategic flexibility as future opportunities become clearer.

Criteria Used In Thinking About Growth

5. In identifying future growth areas, ESC SC 1 is guided by the need to strike a balance between leveraging Singapore's core strengths – manufacturing; trade-related services; modern services including ICT, finance, professional and other business services, while simultaneously extending ourselves into new areas. In addition, although specific growth sectors have been identified, there is also the need to allow for new, unexpected growth opportunities to surface. In general, the areas identified must be those in which Singapore has distinctive capabilities that can differentiate us from other economies; while also allowing us to optimise limited resources and provide diversification of markets and activities. At the same time, the range of activities must allow us to tap the three overlapping geographical areas that constitute our hinterland: ASEAN, Asia and the Global Economy.

6. Many of the activities identified would require enhanced capabilities and new skills. A successful transformation of the economy would thereby create quality jobs with real wage growth for a broad base of Singapore's population.

Seizing New Opportunities, Growing Existing Strengths

7. ESC SC1 has identified the following five strategic thrusts:

- i. A Location to Pioneer, Testbed and Export “Future-Ready” Green Urban Solutions;
- ii. A Leading Consumer Business Centre;

- iii. A Global Base for Complex Manufacturing and Manufacturing-related Services;
- iv. A Leading Global-Asia Financial and Business Hub; and
- v. A Global Node for Commercialisation and Innovation.

A Location to Pioneer, Testbed and Export “Future Ready” Green Urban Solutions

8. Rapid urbanisation and climate change pose both opportunities and challenges in the management of cities worldwide. As a city, Singapore needs to continually upgrade its urban infrastructure, as we adopt models of sustainable development. In Asia, many countries will also be embarking on urbanisation. We should **leverage our own needs and track record as a well-planned city to pioneer and export urban and green solutions**. To achieve this, we should:

- i. Focus on the core areas of urban mobility/smart transportation, energy efficiency and management, renewable energy, and water and waste management;
- ii. Focus on systems-level R&D. Significant funds have been committed to public R&D in the areas above, and they need to be more strongly aligned with industry development in the coming years. Resources should also be channelled to systems-level R&D that builds on strong Public-Private Sector Partnerships, focusing on areas that are relevant to Singapore’s needs, as well as areas where integration is complex. We should grow a vibrant cluster of innovative leading international and local companies in the selected areas of green urban solutions;
- iii. Focus on using ICT to differentiate our “future-ready” green urban solutions. We should build smart system solutions that can provide the intelligence and insights to achieve more optimal use of scarce resources. Such “smart”, differentiated and exportable modular solutions may be deployed in export markets that are in various stages of development; and

- iv. Focus on positioning Singapore as a reference site for exportable green urban solutions. Singapore can develop test-beds for systems-level integration and innovation, leveraging our extensive infrastructure such as the Next Generation Nationwide Broadband Network. The public sector can serve as a lead user to define Singapore's future urban needs.

A Leading Consumer Business Centre

9. With rising affluence, Asian consumers will increasingly drive global demand. Businesses will need to cater and adapt to a diverse range of tastes and preferences across Asia. Singapore's cultural affinity and connectivity with the region positions it well to be the leading base to gather and analyze consumer insights, as well as to develop products for Asian consumers. We should seek to **develop Singapore into the location of choice from which consumer insights are developed; consumer-centric businesses are managed and grown; products & services developed, tested and launched; and IP/trademarks owned and anchored.**

10. For personal services such as education, healthcare and wellness, lifestyle and tourism, Singapore should develop targeted and segmented offerings for the region. Specialised areas such as performing and visual arts, digital media, sports and other forms of entertainment are already being developed in Singapore, and this should be continued.

11. We are home to many MNCs and SMEs that use Singapore as a base to manage and control their regional and global operations. To understand key markets, companies need to deepen local knowledge. There is therefore a need to appreciate the similarities and differences across markets in Asia and build scale in their marketing and distribution. Singapore can serve these needs by developing new infrastructure and capabilities. These include:

- i. Attracting and building a cluster of companies in consumer-related fields such as marketing, branding, design, consumer research, market intelligence and analytics;
- ii. Setting up an Institute for Asian Consumer Insights to provide a focal point for research on consumer insight methodologies and Asian consumer preferences; incentivising private sector research in this area; and promoting IT-enabled data analytics;

- iii. Developing consumer testing and rapid prototyping infrastructure to tap on Singapore's large and globally-diverse tourist population. One example could be at Changi Airport;
- iv. Leveraging e-Commerce as a platform to benefit Singapore-based businesses to overcome the disadvantage of a small local consumer base and tap the potential of our hinterland;
- v. Developing a critical mass of talent in consumer marketing, advertising, analytics, branding, design and other creative fields; and setting aside incubators and physical spaces for those in the creative clusters to collaborate. In addition, a wider range of arts, music and creative events and festivals could be staged in Singapore, which would also enhance our attractiveness as a global city; and
- vi. Leveraging Singapore's standing as a "trusted brand" to provide accreditation/certification for safety and quality for consumer products such as food supplements.

A Global Base for Complex Manufacturing And Manufacturing-Related Services

12. **Manufacturing should remain a key pillar of the Singapore economy, accounting for 20%-25% of GDP.** Over the years, manufacturing activities in Singapore have become more knowledge, technology and capital intensive, built upon deeper expertise in science and engineering, and been buttressed by research and development activities. The four key clusters are electronics, engineering, chemicals and biomedical sciences.

13. Leveraging this base, we should extend to adjacent and convergent areas of manufacturing which require the use of skills and knowledge that span different disciplines. For instance, our capabilities in electronics would enable us to move into plastic-electronics. Similarly, our precision engineering base would allow us to seize new opportunities in the aerospace and medical technology sectors.

14. In the next decade, we expect manufacturing activities in Singapore to continue evolving into areas where the generation, use and protection of know-how and intellectual property will be crucial - such as in the field of

nutraceuticals; into the design and production of “mission-critical equipment or components”, such as that for critical medical devices; and into cross-disciplinary sectors, such as the field of bioelectronics. For ease of reference, we will call this ‘*complex manufacturing*’. Singapore would need to complement our existing capabilities with the growth of design, as well as multi-disciplinary and systems-integration capabilities, in order to bring solutions from concept to production. This evolution would enable manufacturing to continue providing highly-rewarding skilled jobs, and provide a platform for Singapore to build, sustain and deepen our engineering and technology base. In turn, this would help anchor a wider suite of activities, such as headquarter-related activities, R&D, IP management and product lifecycle management activities.

15. Indeed, significant opportunities exist to grow service activities that are closely tied to manufacturing. Singapore is well-placed to take advantage of these opportunities as we have developed capabilities in both manufacturing and services, and are thereby uniquely positioned to be able to develop manufacturing-related services. For example, aerospace companies not only produce high-end components and systems, but also generate significant value through services such as maintenance, repair and overhaul. Likewise, ship-building complements the growth of maritime-related services such as repair, logistics and maritime insurance.

A Leading Global-Asia Financial And Business Hub

16. The rise of Asia in the global economy will drive increasing trade in goods and services, as well as the flow of capital and ideas between the region and the world. As a well-connected global city in the heart of Asia, we would be well-positioned to facilitate these flows. We should aim to be the leading Global-Asia Financial and Business Hub. This would be underpinned by four key services-related activities.

17. First, we should strengthen our position as a trade and transport hub, and build related services. Today, we are a major trading, logistics, aviation and maritime centre. We should deepen our expertise in these areas, and enhance our connectivity to harness the new patterns of trade and people flows. As a trading hub, we should seek to seamlessly integrate physical trade with related services such as trade finance, risk management, supply chain management, certification and distribution. We can also strengthen sophisticated capabilities like price discovery and central clearing. In the aviation and maritime areas, we can enhance activities in the insurance, financing, legal and arbitration services related to trading.

18. Second, we should continue to grow Singapore as an international financial centre. To support Asia's growth, financial markets in Asia need to grow in size and sophistication to channel capital towards productive investments. Our strengths in trading, risk management and structured financing; asset management and private banking; loan syndication; project and infrastructural financing; and capital raising, coupled with our global connectivity, would enable Singapore to play an increasingly important role in these areas.

19. Third, we should grow modern business services, such as professional services, to support the range of activities of companies, large and small. Companies in the legal, arbitration, accounting, consulting and compliance sectors in Singapore would be able to grow the range and depth of their activities, thereby enhancing Singapore's value as a Global-Asia business hub.

20. Fourth, we should enhance the capability and vibrancy of the ICT sector, recognising that internet-based technologies can help companies achieve competitive breakthroughs. We should develop capabilities in cloud computing - where users procure computing services through a "pay-as-you-use" utility model, as well as capabilities in business analytics. Cloud computing can allow companies, both large and small, to reduce operating costs, while providing new capabilities for enterprises to work closely together across diverse geographies. Business analytics would enable companies to realise the full potential of data generated from business processes, thus improving their speed in generating business insights. Business analytics can be applied across a wide-range of industry sectors, ranging from healthcare to financial and hospitality services.

A Global Node For Commercialisation And Innovation

21. Economic growth is driven by the successful commercialisation of innovative ideas, products and services. Hence, our ability to successfully execute the four key strategic thrusts identified above will depend critically on the ability of companies to commercialise and innovate. Concretely, this refers to the translation of good ideas into products, services and solutions that can meet the challenges of changing user needs, new technologies and new competition. Hence, a critical fifth thrust would be to develop Singapore as a key global node for commercialisation and innovation of products and services. This would allow us to extract greater value from existing and new clusters of activities, and provide strategic flexibility for Singapore to capitalise quickly on new and unexpected opportunities as they arise.

22. To achieve this, we suggest focusing on five key areas:
- i. **Building on our steady investment in basic R&D, devote resources towards commercialisation and user-driven innovation.** This may entail sector-specific innovations, cross-cluster opportunities or even large-scale systems integration and innovation. Building on consumer insights and end-user needs, we should provide support to Singapore-based researchers and companies, including SMEs, in their efforts in commercialisation and user-driven innovation. We should also support our universities in embarking on cross-sector integrative R&D;
 - ii. **Bridging the gap between research and commercialisation.** There should be an increased focus on translating research into real world deployment. End users and the industry expect innovation to be commercially deployable within six months to a year but researchers typically need a longer timeframe of three to five years. R&D efforts should also have early “line-of-sight” to end user demand, as this would increase the chances of commercialization success. Singapore can develop integrated test-beds for systems-level integration and innovation, and also for new technologies. Such platforms would foster more collaboration amongst Singapore-based companies to provide integrated solutions. To complement these efforts, we should also take a more active role in helping companies scale up to compete in global markets;
 - iii. **Government as lead demand and sophisticated user for innovation and reference site for exportable capabilities.** The public sector should serve as a lead demand user to define Singapore’s future developmental needs and help catalyse innovation of ‘future-ready’ solutions. By leveraging lead demand projects from the public sector, we can provide opportunities for companies to innovate and commercialise IP in the fields of green urban solutions, ICT, finance, logistics, healthcare, education, and other sectors. Companies can also gain the necessary track record needed for the export market through implementing next generation innovations for the Singapore public sector;
 - iv. Linkages to global innovation centres. At the same time, we should attract entrepreneurs and innovative companies from all

over the world to test and commercialise their ideas here, both for the regional as well as the global markets. We should be linked to major centres of innovation, and this will help create a more vibrant landscape in Singapore; and

- v. In addition to innovation in products, we need to also make a concerted push in **promoting innovation in services**. This would complement our effort to develop Singapore as a Global-Asia Financial and Business Hub, and as a leading Consumer Business Centre. In sectors such as the legal and financial services, this could mean improving the ability to manage complex transactions and to provide customised solutions. In other sectors such as education and healthcare, this could entail enhancing the quality and reliability of services offered. For sectors such as retail and F&B, innovation in the form of improvements in work processes, new business models and technology enablement would help to raise productivity and value;

Conclusion

23. The transformation of the Singapore economy will be a multi-year effort. The five strategic thrusts are intended to enable Singapore to build on current strengths, while shifting into more knowledge-intensive, sophisticated and innovative activities for both manufacturing and services. The new areas require new capabilities and skills, but a successful shift will enable Singapore to sustain growth with higher productivity while creating quality jobs with good wage growth for the majority of the population.

**SEIZING GROWTH OPPORTUNITIES
ESC SUBCOMMITTEE MEMBERS**

1.	Heng Swee Keat (Co-Chair)	Managing Director, Monetary Authority of Singapore
2.	Lothar Herrmann (Co-Chair)	President & CEO, Siemens Pte Ltd/CEO ASEAN Cluster
3.	Mahendra Agarwal	Managing Director & CEO, Gati Asia Pacific Pte Ltd
4.	Beh Swan Gin (Dr)	Managing Director, Singapore Economic Development Board
5.	Steve Bertamini	Group Executive Director, CEO Standard Chartered Bank
6.	Aaron Boey	President, Levi Strauss Asia Pacific Division Pte Ltd
7.	Chew Choon Seng	CEO, Singapore Airlines
8.	Choo Chiau Beng	CEO, Keppel Corporation
9.	Charles Goodyear	
10.	Ko Kheng Hwa	CEO, Singbridge International Pte Ltd
11.	Ramachandran Rajamanickam	Corporate Vice President, Pacific, Asia and Africa, Abbott Laboratories (Singapore) Pte. Ltd.
12.	Ron Sim	Chairman & CEO, OSIM International Ltd.
13.	Tan Chorh Chuan (Prof)	President, NUS
14.	Sunny Verghese	Group Managing Director and CEO, Olam International Ltd
15.	Bernard Yeung (Prof)	Dean, NUS Business School
16.	Yong Ying-I (Ms)	Permanent Secretary, Ministry of Health
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