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With the central government’s announcement of the Outline Development Plan for the Greater Bay Area (GBA), the 11 cities in the region are preparing to embrace a whole new future. As one of the core GBA cities, Macao is set to leverage its strength as a tourism hub and boost internationalisation as a platform for trade and commerce for the Portuguese-speaking countries.

This issue dives into what lies ahead for Macao, from broad goals to specific measures, over the next 16 years. Experts weigh in with their opinions on the solidification of Macao’s role as a platform – the “key to accessing one of the most open and economically vibrant regions of China” – and opportunities offered by the new emphasis on financial services in the SAR.

Tourism remains a major aspect of Macao’s economy under the Plan, with nearby Hengqin emerging as a complement to the SAR, boasting family-friendly attractions, international interest, and plenty of room to grow. Cultural tourism also received support, and the annual Sinulog Festival offers a perfect example of Macao as a crossroads of the world. Celebrated by the city’s Filipino community, the festival pays homage to the Child Jesus with vibrant fanfare and fairy tale costumes in a parade that stretches from St Augustine’s Church to downtown.

Communication plays a central role in making all of this cooperation and cultural exchange possible, and that requires translation. The team at the Natural Language Processing and Portuguese-Chinese Machine Translation Laboratory (NLP2CT) has been a pioneer in the creation of automated translation systems since before the handover, and they’re not done yet. Collaborating with top-notch universities around the world to, NLP2CT have deepened their research and transformed the results into marketable products for the Chinese-Portuguese translation market in the GBA.

Meanwhile, locally based airline Air Macau celebrates its 25th anniversary with an eye toward a new era of ‘competition and cooperation’. Its monopoly concession ends next year, but with a new crop of local pilots finishing their training and a reinforced role for airports within the Greater Bay Area, it looks like blue skies ahead.
On 1 July 2017, the National Development and Reform Commission and the governments of Guangdong, Hong Kong, and Macao signed the Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Greater Bay Area (GBA) in Hong Kong. Since then, the relevant central government departments and the three local governments have strived for policy breakthroughs on the joint development of the GBA.

The Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area went into effect on 18 February 2019, clearly outlining the strategic positions and development objectives of the GBA. Known more simply as the Plan, its 11 chapters cover general background, basic principles, spatial layout, an innovation and technology hub, infrastructure connectivity, a modern industrial system, ecological conservation, quality living area, participation in the Belt and Road Initiative (BRI), economic cooperation platforms, and the implementation of the Plan. In the immediate term, the Plan covers the present to 2022 and extends to 2035 in the long term.

Robust economic foundation

The GBA leads the country in economic development. It has a comprehensive industry system, with a distinctive cluster advantage and strong economic complementarity. In 2017, the GBA’s gross domestic product stood at around RMB10 trillion (US$1.488 trillion). The GBA has intensely implemented an innovation-driven development strategy. Guangdong, Hong Kong, and Macao have outstanding capabilities in scientific research and related commercial application. They are home to numerous universities, scientific research institutes, high-tech enterprises and large-scale national scientific projects with important national, and even global, influence. A high degree of internationalisation positions the GBA well for continued growth while the strong cooperative foundation between the 11 members ensures a productive partnership going forward.

However, the GBA faces many challenges, from external instability and rising protectionism to overcapacity and the imbalance and mismatch of supply and demand. The different social and legal systems of Guangdong, Hong Kong and Macao, each a separate customs territory, also present obstacles. Market connectivity needs to be further improved to achieve an efficient flow of the factors of production.

There remains a relatively wide development gap within the GBA thus coordination and compatibility will need to be strengthened. Homogeneous competition and mismatch of resources exist in certain regions and sectors. Continuous economic growth in Hong Kong lacks sustainable and stable support while the economic structure of Macao is relatively homogeneous with limited resources for development. The market economy structure in the nine Pearl River Delta municipalities calls for improvement.

Regional development faces various bottlenecks, including growing constraints on resources and energy supplies, escalating pressure on ecology and the environment, and a gradual reduction in the demographic dividend.

By 2022, the combined strength of the GBA should increase substantially, with deeper cooperation among Guangdong, Hong Kong, and Macao. The result will be a framework for an international first-class bay area and a world-class city cluster that is vibrant and highly innovative in a pleasant ecological environment.

By 2035, the GBA will become an economic system supported by innovation with greater international competitiveness. The markets within the GBA should be highly connected, with a very efficient flow of various resources and the factors of production. The promise of an international first-class bay area for living, working, and travelling should be fully realised.
Spatial layout

The Plan calls for leveraging the leading roles of the strong links of Hong Kong-Shenzhen, Guangzhou-Foshan and Macao-Zhuhai, while deepening cooperation between Hong Kong and Shenzhen, Macao and Zhuhai, and expediting the integrated development of Guangzhou and Foshan. The GBA will rely on a rapid transport network involving high-speed intercity railways, high-grade motorways, ports, and airports to form a well-connected spatial network of major cities. The Plan states the need to better utilise the Hong Kong-Zhuhai-Macao Bridge, speed up the construction of key transport infrastructure (such as the Shenzhen-Zhongshan Bridge and the Shenzhen-Maoming Railway), enhance development on the west bank of the Pearl River, and foster synergy between the east and west banks of the Pearl River.

The GBA will build on the four core cities of Macao, Hong Kong, Guangzhou, and Shenzhen as engines for regional development. The Plan’s objectives for the four cities are as follows:

- Macao. To develop into a world-class tourism and leisure centre, and a commerce and trade cooperation service platform between China and Lusophone countries. To promote an appropriate level of diversified economic development, and to develop into a base for exchange in a setting where diverse cultures coexist with the predominantly Chinese culture.

- Hong Kong. To consolidate and enhance its status as international financial, transportation and trade centres. To strengthen its status as a global RMB business hub and its role as an international asset management centre. To develop the innovation and technology industries, nurture emerging industries, and establish itself as the centre for international legal and dispute resolution services in the Asia-Pacific region.

- Guangzhou. To fully leverage its role as a national core city and an integrated gateway city, strengthen its functions as an international commerce and industry centre and an integrated transport hub, and enhance its functions as a technological, educational, and cultural centre.

- Shenzhen. To leverage its role as a special economic zone, a national economic core city and a national innovation city, expedite its transformation into an international city, and strive to become a capital of innovation and creativity with global influence.

Innovation and technology hub

The Plan aims to better leverage the functions of the Mainland-Hong Kong and the Mainland-Macao Science and Technology Cooperation Committees. It seeks to promote the integration of Hong Kong and Macao into the national innovation system, enabling the SARs to play a greater role, and to support the development of the Guangzhou-Shenzhen-Hong Kong-Macao innovation and technology corridor.

The Plan promotes the gradual opening up to Hong Kong and Macao the major national R&D infrastructure facilities and large-scale national R&D equipment located in Guangdong. It supports the in-depth integration of industries, academia and research of Guangdong, Hong Kong, and Macao enterprises.

The Plan supports the development of major carriers for innovation, such as the Hong Kong-Shenzhen Innovation and Technology Park, the Sino-Singapore Guangzhou Knowledge City, the innovation and technology base in Qingyuan of Nansha, and the Traditional Chinese Medicine Science and Technology Industrial Park of Cooperation between Guangdong and Macao in Hengqin.

The Plan supports the continued development of Partner State Key Laboratories in Hong Kong and Macao. It also calls for Hong Kong and Macao R&D institutes in Guangdong to enjoy the same treatment as other mainland R&D institutes.

It supports the development of Hong Kong and Macao-oriented incubators of technology enterprises in the nine Pearl River Delta (PRD) municipalities.

The Plan aims to step up the protection and exploitation of IP (intellectual property), to capitalise on the IP collaboration mechanisms of Hong Kong-Guangdong, Macao-Guangdong and the Pan-Pearl River Delta region, and to strengthen cooperation in areas of IP protection and training of IP professionals in the GBA.

Infrastructural connectivity

The Plan aims build a modern, comprehensive transport system in the GBA by strengthening infrastructure development, enhancing connectivity, optimising operations, and establishing a network with a rational layout. It supports efforts to enhance the international competitiveness of the PRD port cluster. Hong Kong’s status as an international maritime centre will be enhanced, with the SAR developing high-end maritime services such as ship management and leasing, ship finance, marine insurance, maritime legal advice, and dispute resolution.

The Plan aims to develop a world-class airport cluster in the GBA. Hong Kong’s status as an international aviation hub will be consolidated, with the SAR strengthening its role as an aviation management training centre. Efforts will be
made to raise the competitiveness of Guangzhou’s and Shenzhen’s airports as international hubs, and to strengthen the functions of airports such as those in Macao and Zhuhai.

The Plan supports the reconstruction and expansion of Macao’s airport. It also supports the enhancement of cyber security protections and development of a new generation of information infrastructure, expanding internet bandwidth capacity in the GBA, and a comprehensive planning for the next-generation IPv6 (Internet Protocol Version 6) network.

**Modern industrial system**

The Plan calls for enhancing the energy supply structure of the GBA by deepening supply-side structural reform, striving to nurture new industries, new types and new models of businesses, and supporting the transformation and upgrading of traditional industries. It supports Macao in developing a China-Lusophone countries platform to provide financial services, an export credit insurance system, and an RMB clearing centre for Lusophone countries. Efforts will be made to leverage Macao’s strengths as a regional clearing centre for Lusophone countries, and to promote financial cooperation and development of cultural industries in the GBA.

**A bay area for leisure**

The Plan promotes diverse tourism products including culture and history, leisure and vacation, healthcare and well-being, and cruise and yacht travel in the GBA. It seeks to establish a cooperation alliance in tourism for other GBA cities and pursuing the sharing of regional tourism resources among Guangdong, Hong Kong, and Macao. It seeks to establish the GBA tourism brand, develop creative tourism products, and improve generally the quality of tourism and leisure.

The Plan will promote the effective implementation of a joint strategic master plan for the Guangdong-Hong Kong-Macao Greater Bay Area. By 2022, the combined strength of the GBA should increase substantially, with deeper cooperation among Guangdong, Hong Kong, and Macao. The result will be a framework for an international first-class bay area and a world-class city cluster that is vibrant and highly innovative in a pleasant ecological environment.

**Developing an education and talents hub**

The Plan promotes diverse tourism products including culture and history, leisure and vacation, healthcare and well-being, and cruise and yacht travel in the GBA. It seeks to establish a cooperation alliance in tourism for other GBA cities and pursuing the sharing of regional tourism resources among Guangdong, Hong Kong, and Macao. It seeks to establish the GBA tourism brand, develop creative tourism products, and improve generally the quality of tourism and leisure.

The Plan supports the implementation of key cultural projects such as the Guangdong-Hong Kong-Macao Youth Cultural Exchange Tour and the Funding Scheme for Youth Exchange in the Mainland of Hong Kong, and the Thousand Talents Programme of Macao. The Plan also supports Macao in leveraging its distinctive characteristics as a place where diverse cultures from both East and West have long integrated and coexisted, expediting the development of cultural industries and cultural tourism, and developing a cultural exchange centre between China and Lusophone countries.

**By 2022, the combined strength of the GBA should increase substantially, with deeper cooperation among Guangdong, Hong Kong, and Macao. The result will be a framework for an international first-class bay area and a world-class city cluster that is vibrant and highly innovative in a pleasant ecological environment.**

**Developing an education and talents hub**

The Plan supports Macao in establishing a training base for bilingual talents proficient in Chinese and Portuguese, and in leveraging the experiences and strengths of Macao in tourism training and education and in promoting its tourism industry.

The Plan promotes diverse tourism products including culture and history, leisure and vacation, healthcare and well-being, and cruise and yacht travel in the GBA. It seeks to establish a cooperation alliance in tourism for other GBA cities and pursuing the sharing of regional tourism resources among Guangdong, Hong Kong, and Macao. It seeks to establish the GBA tourism brand, develop creative tourism products, and improve generally the quality of tourism and leisure.

The Plan will promote the effective implementation of a Guangdong-Hong Kong-Macao individual yacht travel scheme, expedite the improvement of hardware and software facilities, and seek to create a free port for international yacht tourism.
Belt and Road

Under the Plan, the GBA will strengthen its participation in the BRI, with deeper cooperation between Guangdong, Hong Kong, and Macao. It supports efforts to strengthen judicial exchanges and cooperation of cities in the GBA, and the development of a multi-faceted dispute resolution mechanism. It also calls for the development of an international arbitration centre, supports exchanges and cooperation among arbitration and mediation organisations in Guangdong, Hong Kong and Macao, and promotes arbitration and mediation services in the GBA.

Market integration

The Plan supports the implementation of the Agreements under the respective Closer Economic Partnership Agreements (CEPAs) with Hong Kong and Macao, in sectors such as finance, education, law and dispute resolution, maritime transport, logistics, rail transport, telecommunications, Chinese medicine, construction, and related engineering. It supports further liberalisation under the CEPA framework, allowing Hong Kong and Macao professionals and enterprises to enjoy national treatment in more sectors in the mainland.

It supports expanding the scope of the mutual recognition of professional qualifications among the mainland, Hong Kong and Macao, under a system of ‘one examination, three certifications’ – namely, passing one unified examination to obtain a vocational qualification at the national, Hong Kong and Macao levels.

The Plan aims to strengthen Hong Kong’s status as a global offshore RMB business hub, and support Macao’s participation in the Silk Road Fund, the China-Latin American Production Capacity Cooperation Investment Fund, the China-Africa Industrial Capacity Fund, and the Asian Infrastructure Investment Bank. The Plan also calls for the development of a key financial service platform and a high-quality urban environment in the district.

Cooperation platforms

The outline aims to speed up the development of major existing economic platforms such as Qianhai of Shenzhen, Nansha of Guangzhou and Hengqin of Zhuhai, and fully leverage their experimental and demonstration functions in deepening reform.

Qianhai

Objectives in Qianhai centre on strengthening its role as an engine of cooperation and development, enhancing cooperation in legal matters, and developing a new international city centre in the commercial development.

The Plan states the need to compile a blueprint for the development of the Shenzhen-Hong Kong Modern Service Industry Cooperation Zone and consider the further expansion of Qianhai. The aim is to facilitate the innovative development of the financial sector, with policies such as expanding the functions of offshore accounts.

It will explore effective paths to capital account convertibility. It will support the Qianhai Mercantile Exchange of the Hong Kong Exchanges and Clearing Limited in establishing a spot commodities trading platform for serving domestic and foreign clients. It will enhance cooperation in green finance and fintech between Hong Kong and Shenzhen. It will also develop a high-end international maritime service centre, and modern maritime services such as ship finance and marine insurance.

Nansha

As a state-level new area and pilot free trade zone, Nansha is positioned to be a GBA support zone for international shipping, finance, and innovation. Objectives for developing Nansha of Guangzhou largely centre on cooperative efforts, joining with Hong Kong and Macao to develop a high-standard gateway for opening up and to jointly develop a demonstration zone for innovative development.

The Plan also calls for the development of a key financial service platform and a high-quality urban environment in the district.

Hengqin

To complement Macao’s development into a world tourism and leisure centre, Hengqin of Zhuhai is set to be a high-standard
international leisure and tourism island. The Plan calls for a study on facilitation measures for visitors travelling between Hengqin and Macao, and allowing Macao tourism practitioners to provide relevant services in Hengqin.

It supports the coordinated development of Hengqin, Zhuhai Free Trade Zone and Hongwan area, and development of a Guangdong-Hong Kong-Macao logistics park. It supports major cooperation projects such as the Macao-Hengqin Youth Entrepreneurship Valley (Inno Valley Hengqin) and the Guangdong-Macao Cooperation Industrial Park, and a study on the establishment of a Guangdong-Macao information hub.

It calls for further development of the Traditional Chinese Medicine Science and Technology Industrial Park of Cooperation between Guangdong and Macao and to explore allowing eligible Hong Kong, Macao, and foreign medical personnel to practise directly in Hengqin.

The Plan supports Zhuhai and Macao to jointly develop livelihood projects with integrated services including elderly care, living, education, and healthcare in Hengqin. It calls for exploration of the direct application and extension of Macao’s healthcare system and social insurance to such projects. It will study the possibility to have professionals and enterprises from Macao to participate in the development and management of the projects. Establishment of a healthcare fund to offer healthcare protection for Macao residents receiving medical treatment in Hengqin and schools for Macao’s students will also be studied.

The Plan supports Hengqin and Macao to jointly develop the China-Latin America economic and trade cooperation platform, and to establish international trade channels between the mainland and BRI-related countries and regions. Hengqin will provide a pivot for Macao’s development of cross-boundary e-commerce industries and facilitate the convenient entry of products from Lusophone countries into the mainland market via Macao. The Plan also calls for study of delegating authority to Hengqin for issuing residence permits to foreigners.

The Plan outlined ambitious goals to be achieved over the next 16 years.

By 2022, the end of the immediate term, “the framework should essentially be formed for an international first-class bay area and world-class city cluster that is vibrant and highly innovative, with an optimised industrial structure, a smooth flow of various factors of production and a pleasant ecological environment.”

By 2035, the end of the long term, the GBA should be fully formed into “an international first-class bay area for living, working, and travelling” with a highly competitive economic system driven by innovation. From the efficient flow of resources and factors of production to strong regional cooperation and cultural integration, high connectivity will serve to strengthen the region.

The GBA consists of the Macao and Hong Kong SARs and nine cities in Guangdong – Guangzhou, Shenzhen, Foshan, Dongguan, Zhaoqing, Jiangmen, Zhongshan, Zhuhai, and Huizhou. They cover a combined area of 56,000 sq km with a population of around 70 million in 2017.
In 2017, their combined GDP reached US$1.5 trillion. Already the most developed area of China with the highest levels of foreign investment and per capita income, Morgan Stanley Asia estimates that, by 2030, its economic output will reach between US$3.2 trillion and US$4.1 trillion. At present, that would make the GBA one of the top five economies in the world; it already ranks in the top 15. Macao is one of four ‘core cities’ in the GBA, together with Hong Kong, Guangzhou and Shenzhen, serving as anchors for the city clusters and the primary engines driving economic growth forward.

Commitment to progress

The third chapter of the 11-chapter document outlines broad objectives for Macao going forward: development into "a world-class tourism and leisure centre, and a commerce and trade cooperation service platform" between China and the Portuguese-speaking countries (PSC); promotion of “an appropriate level of diversified economic development”, and becoming a “base for exchange and cooperation where Chinese culture is the mainstream and diverse cultures coexist.”

For the finance sector, the Plan calls for cooperation between the financial institutions of Guangdong, Hong Kong, and Macao, and the joint development of offshore financial business.

In 2017, their combined GDP reached US$1.5 trillion ... by 2030, its economic output will reach between US$3.2 trillion and US$4.1 trillion.

Under the Plan, Macao is to work closely with the neighbouring city of Zhuhai to develop the special zone of Hengqin, in entrepreneurship, industry, and information. Macao should also cooperate with cities on the west side of the Pearl River Delta, including Foshan, Zhongshan and Jiangmen, to deepen reform and improve their respective strengths.

Chief Executive Chui Sai On gave his first detailed response to the Plan on 21 February, speaking to a symposium in Hong Kong that was jointly hosted by the governments of Guangdong, Hong Kong, and Macao.

Chui said the Plan “provided clear directions and content” on the joint development of the GBA. “The GBA initiative will help inject new impetus into Macao’s economic development.”

“Macao – as a core city leading Greater Bay Area development – is committed to, and proactively deploying resources for, the efforts to accommodate the city-cluster initiative. The ‘one country, two systems’ principle implemented in Hong Kong and Macao – is a significant advantage for the city-cluster initiative, differentiating it from other coastal bay-based urban areas in other parts of the world,” he said.

Chui noted that each of the GBA cities have distinctive industries and different specified roles under the plan. Macao’s coordinated cooperation with the other cities, making use of its own unique advantages, will pave the way for wider development opportunities for the SAR in realising its goal of adequate economic diversification.

“Macao will double its efforts in supporting development of the science and technology sectors as well as other innovation-focused industries, in a bid to pursue a goal outlined in the plan to develop the city cluster as an international science and technology innovation centre,” he vowed.

He added that the SAR would “spare no effort” in advancing a Guangdong-Shenzhen-Hong Kong-Macao innovation and technology corridor, encouraging local education institutions to strengthen research on science and technology, and promoting close partnership between educational institutions within the GBA.

On 1 March, the central government announced eight measures to accelerate the development of the GBA. One measure supports the open recruitment of Hong Kong and Macao residents by public institutions in the bay area while two others address potential tax issues for those working in the mainland.

Three measures focused on easing the flow of people moving throughout the GBA: introducing immigration facilitation reform measures to accelerate the process of offshore financial business.

The Plan promises to "consolidate and enhance Hong Kong’s status as an international financial, transportation, and trade centre, as well as an international aviation hub." Meanwhile, Guangzhou will take a leading role as a provincial capital and national central city. Shenzhen's role will be as a special economic zone and home of China's innovation and technology giants.

The feature that distinguishes Macao from other GBA cities is its ties with Portuguese-speaking, or Lusophone, countries.

The Plan gives full recognition to the organisations promoting Macao’s ties with Lusophone countries, and calls for the strengthening of the fund dedicated to cooperation and development between China and the PSC.

It also supports efforts to capitalise on the existing services platforms, which offers finance, law, trade and investment information, industry and regional cooperation, all contributing to the promotion of exchanges between Lusophone countries and the GBA.

Of these, financial services stand out: the Plan supports Macao in developing a China-Lusophone countries platform to provide financial services, an export credit insurance system, and an RMB clearing centre for Macau.

Rodrigo Brum, deputy secretary general of Forum Macau, believes that the Plan will be extremely important for the Lusophone countries. A significant number of objectives do make explicit reference to the role of Macao in relation to

GREATER BAY AREA POPULATION DENSITY AND GDP

<table>
<thead>
<tr>
<th>City</th>
<th>Population density</th>
<th>Population density (inhabitants/km²)</th>
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</table>
Deepening cultural identity, broadening tourism

Improving and diversifying Macao’s tourism industry is an important part of the Plan. To complement Macao’s development into a world tourism and leisure centre, Hengqin is set to be “a high-standard international leisure and tourism island.” In line with this goal, the Plan proposes a study on facilitation measures for visitors travelling between the two cities and allowing Macao tourism practitioners to provide relevant services in Hengqin.

Other measures focus on tourism in the GBA more broadly and cooperative efforts, from sharing regional tourism resources to establishing a distinct GBA tourism brand. Macao’s own brand as the crossroads of East and West, and all of the rich cultural heritage that comes with it, will be leveraged with the development of cultural industries and tourism, as well as a cultural exchange centre between China and Lusophone countries.

Gary Ngai, president of the Macao Association for the Promotion of Exchange between Asia-Pacific and Latin America, agreed that Macao has its own cultural identity, including a continental legal system and Latin-based languages – Spanish, Italian, French, and Romanian, in addition to Portuguese – that account for around one-eighth of the world’s population.

“This kind of cultural heritage is still far from being fully utilised and developed,” he noted. “It could increase Macao’s bridging role in the GBA in the years to come. People have been talking a lot about forming an arbitration centre for legal disputes between China and the Latin-speaking community. The problem is how to train more expertise in this area, which at this moment is still very weak in professional terms.”

Ngai believes that developing Macao’s cultural identity could offer a unique contribution to the
We need to concentrate more resources to make a deeper study of this subject, by creating, enlarging, and improving concrete studies in specific centres of the local universities, which at this moment, have still not been finally established, due to lack of funding and expertise.

He argues that “Macao has more to offer in attracting tourists from different parts of the world, to see, taste, and explore the uniqueness of its culture,” but that will require investment.

Infrastructure, including ports and airports, needs to be modernised and enlarged. More tour guides in different languages need to be trained and new offices opened abroad to “attract and diversify the tourists coming from different countries, as far as Latin America, where many people still do not know where Macao is.”

Opportunities and challenges

For all of the ambitions encapsulated in the Plan, it acknowledges that there remain many challenges – both external and internal – to fully realising the Greater Bay Area.

José Luís de Sales Marques, president of the Institute of European Studies of Macau, believes that Macao has a lot of work to do. “It will require the joint efforts of government, private companies, and society to build upon its competitive advantages, upgrade the whole economic system, education, competitiveness, and overall capabilities.”

But he also pointed to opportunities, particularly for “mobility of young people and professionals in the GBA; the financial sector’s participation in several platforms envisaging the development of GBA’s integrated market; the China-Lusophone connection and BRI-related financing; and the building of infrastructure.” These, he said, were the most relevant measures for the SAR, touting infrastructure specifically as helping Macao to connect to the GBA and “go global.”

He agreed with Prof So that the Plan is more complex than the Five-Year Plan, connecting the GBA with the BRI in a very precise way. “It gives direction to the development of Macao’s financial services, including the internationalisation and participation in Chinese development funds and the Asian Infrastructure Investment Bank,” he noted. “The Plan is a tool for deepening reform and opening up the Chinese economy.”

José Luís de Sales Marques, president of the Institute of European Studies of Macau
Macao-Hengqin: Entertainment capital in the making

Text Louise do Rosário  Photos Xinhua News Agency and Kevin Lee
Once a fishing town, Hengqin is now becoming an economic and business hub as investments, including from Macao, have been set in place to transform seven different sectors of development for the district.

During ancient times, Hengqin was a piece of empty land bordering Macao inhabited by a few fishing families harvesting oysters, which became a delicacy for local restaurants. Today, Hengqin has been transformed into Zhuhai’s newest commercial and tourism district. On soil that was once barren, dozens of high-rise office blocks, five-star hotels, and luxury apartments are being built. Tree-lined boulevards will neatly divide the district into areas planned for distinct functions – finance, tourism, shopping, and commerce – and an elaborate transport network will integrate it with Macao, Zhuhai, and the rest of the Pearl River Delta (PRD).

The 106-sq-km island now boasts over 90 large construction sites, with cranes and bulldozers dotting the dusty road, next to the several thousand original residents who still live in their traditional villages. The embryonic shape of this next big business hub in the western PRD is becoming visible. Only a bridge crossing away in Zhuhai, landmark projects such as the dome-shaped Convention Centre and the high-rise blocks of a five-star Sheraton, with 548 rooms, and St Regis Hotels, with 250, dot the skyline.

The north of Hengqin is home to the financial district. All of China’s major banks have offices there, although turnover is currently limited, as do Luso International and BNU of Macao.

This remarkable development is the result of the central government’s decision in 2009 to make Hengqin a special zone for economic development. The government and large state companies have poured billions of renminbi into infrastructure and other landmark projects. This has persuaded private investors, including those from Macao and Hong Kong, to spend heavily; they are betting that Hengqin will be able to attract millions of visitors each year, many en route to Macao.

The transformation of Hengqin began in August 2009 when the State Council published the Hengqin Comprehensive Development Plan. Two years later, in July 2011, it announced policies for the island more favourable than those of the Special Economic Zones.

The central government designated seven sectors for development there: tourism and leisure, trading and services, finance, culture and creativity, traditional Chinese medicine, science and research, and high technology.

On 23 April 2015, it designated Hengqin as a Free Trade Zone, to become a “model experimental zone to cooperate with Hong Kong and Macao.” Beijing instructed state companies to invest there, as the basis for the new area; private companies followed.

According to official figures, Hengqin’s GDP reached RMB18.36 billion (US$2.73 billion) in 2017, an increase of 64 times that of 2009. Fixed asset investment reached RMB41.23 billion (US$6.13 billion), up 21 times, while actual foreign investment has gone up 972 times to US$670 million.

In just the first nine months of 2018, its GDP reached RMB17 billion (US$2.53 billion), an increase of 12 per cent over a year earlier, with fixed asset investment rising 34 per cent to RMB42.3 billion (US$2.53 billion). The
figures show that 2,633 Macao and Hong Kong companies have registered in Hengqin, including 157 financial firms. There are 31 projects with Macao and Hong Kong capital, occupying 4.53 sq km and accounting for 33 per cent of the land sold.

The Macao projects include two towers from Shun Tak Holdings, close to the new railway station, and the nearby Legend Ponto Square shopping mall, due to open later this year. Designed to resemble a Portuguese castle, the mall will offer over 300 shops, making it the first large-scale shopping complex in Hengqin; David Chow holds majority control of the project.

Galaxy also acquired 2.7 sq km in the south of Hengqin in 2015, one of the largest sites, for a non-gaming project while Lai Sun Group announced plans for its own development in July 2016. Phase one of its Novotown integrated tourism and entertainment resort is set to open this year. Phase one came in at RMB5 billion (US$743.88 million).

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Macao already has a significant presence in Hengqin. The new campus of the University of Macau (UM) opened in November 2013 on 1.09 sq km of the island. The laws of the SAR operate in the area, which is fenced off from the rest of Hengqin and accessible via a road tunnel from Taipa. The site is nearly 20 times larger than the previous campus and can accommodate around 15,000 students.

According to its website, for the 2017-2018 academic year, UM had seven faculties, 11 independent academic units, and 10 residential colleges. Of the roughly 10,000 students at UM, around 3,200 were enrolled in 54 masters and 32 doctoral programmes.

The Traditional Chinese Medicine Science and Technology Industry Park of Cooperation between Guangdong and Macao (GMTCM Park), located on 500,000 sq metres in the hi-tech zone of Hengqin, officially launched in April 2011.

The park is part of the strategy of the Macao government to diversify its economy. Intended to serve as a platform for R&D, product testing and initial manufacture, it aims to win international recognition for traditional Chinese medicine and turn it into products that are sold around the world.
During a visit to GMTCM Park last August, Secretary for Economy and Finance Leong Vai Tac said that Macao would further strengthen its partnership with Zhuhai to jointly strengthen the development of the park in line with Macao’s role as a “unique international trade window.”

“Macao will assist mainland Chinese medicine companies in exporting their products to Portuguese-speaking countries, the European Union and the countries along the Belt and Road route, and also help those companies to get in touch with their foreign counterparts and import products from overseas,” he said.

**Betting on the future**

Private investors have also joined the real-estate game, investing in luxury blocks such as Phoenix Tree Tower.

Real estate professional Fan Meili confidently walked customers around the tower, located on a prime site overlooking the Cotai Strip. With an investment of RMB1.38 billion (US$205.31 million), it has 40 floors above ground and four below, divided into retail and leisure (floors 2–5), offices (6–16), high-end residences (17–34), and a luxury hotel (35–40). The roof, complete with helicopter pad, offers spectacular views of Macao across the water and the area around the new high-speed train station nearby.

“We have sold half the units,” Fan said. “For the office space, the cost is RMB65,000 [US$9,670] per square metre.” She showed visitors around a banquet room on the 36th floor, suitable for entertaining high officials and business clients. “The phoenix is an animal that attracts people of talent.”

Like most property investors in Hengqin, those who have purchased units in the Phoenix Tree Tower do not live in them nor rent them out. About two-thirds are mainlanders and the rest are from Macao and Hong Kong. Those from the SARs benefit from a first-of-its-kind scheme in which they will pay the same rate of income tax in Hengqin as they would at home, not the higher rates applicable to mainland residents.

Buying in Hengqin is an investment; they are betting on a rise in prices across the island, enabling them to cash out at some time in the future. This is one of the promises on which the growth of Hengqin is built.

**Easy access destination**

Core to that promise is the development of Hengqin as both a tourist destination, acting in complement with nearby Macao, and as a central hub for travel in the region. Three major transportation projects will serve to anchor Hengqin: the Hong Kong-Zhuhai-Macao Bridge, a light rail extension from Macao and new train station, and a road-rail bridge to Zhuhai Jinwan Airport.

“Previously, the island was connected to no airport. Soon, it will be connected to three.”

He views the extension of Macao’s light rail system to the new high-speed railway station and immigration facility in Hengqin as another big draw. Set to open this year, the new Hengqin Station will be the second largest train station in China and the epicentre of a comprehensive transportation network in the Pearl River Delta, connecting the intercity mass transit railways of Guangzhou, Foshan, and Macao. Seamless shifts between transit systems and rapid border-crossing procedures will make travel simple.
encouraging people to make the most of their time in the area. “Mainland visitors will be able to leave their train, go through a single immigration point and enter Macao more easily – or they can go to one of the many hotels and resorts on Hengqin.”

As of May 2018, Macao had 38,700 hotel rooms – a fraction of the 126,000 in Orlando or 147,000 in Las Vegas – and almost no land to build more. Hengqin can provide tens of thousands of hotel rooms, as well as theme parks, resorts, sporting facilities, performance venues, and other non-gaming entertainment for those looking to get out of the casinos.

One major non-gaming facility is due to open later this year: the Fu Yin Sandy Spring Resort, with three hotels and 1,600 rooms. The hot spring resort, which will utilise a nearby natural waterfall, is a US$1-billion investment by a private Dongguan company. More resort projects will come onto the market in future. The government has authorised reclamation of a further 14.5 sq km off the southern end for construction of small islands that will house resorts similar to those on the Palm Island of Dubai.

The biggest resort project on the island is the Chimelong Ocean Kingdom. Located at the southern tip of Hengqin, Chimelong is the world’s largest ocean theme park, breaking multiple Guinness World Records upon its opening in March 2014. It includes one of the world’s large aquariums, with whale sharks, beluga whales and dolphins, as well as habitats with polar bears and other exotic animals. With nearly 10 million visitors in 2017, Chimelong was the only park in the top 15 worldwide not associated with Disney or Universal Studios.

Even with the sprawling ocean theme park, Chimelong has developed only a third of the land allocated to it in Hengqin. It is building the world’s largest marine science museum, set to open later this year, and a second auditorium with 7,000 seats. The current 2,000-seat venue hosts a nightly circus featuring an array of animal and human performances.

“Macao-Hengqin will become the entertainment capital of Asia,” Ossolinski asserted. “Hengqin will be the biggest game-changer for Macao since the 2002 liberalisation of the gaming industry.”
Maturity comes with experience – for a company that will soon celebrate an important anniversary milestone, this adage may have particularly resonance. Air Macau, established in 1994 as the only carrier based in the SAR, began operations the following November with the opening of Macau International Airport. Poised to enter its 25th year of operation, the still relatively fledgling company has navigated twists and turns – from bankruptcy crisis to business transformation – to establish a path that promises stable long-term development.

Today, Air Macau comprises an international team of around 1,500 staff from 43 countries and regions all over the world, including more than 240 pilots. It serves 26 destinations across Asia and has carried more than 40 million passengers since its founding. Yet with the anniversary comes a new challenge: the end of its monopoly over the city’s aviation industry, after the company’s 25-year concession expires in 2020. This follows the government’s decision to liberalise the aviation sector.

Taking this special occasion, we recently spoke with the top management of Air Macau: Chen Hong, president of executive committee cum chief executive officer; Zeng Hualiang, vice president; and Liao Hanxi, vice president. The trio expressed optimism about the future for the steadily growing company while still acknowledging potential uncertainties surrounding the market.

Entering its 25th year of operation, Air Macau is drawing on past experience to shape its future long-term development in an increasingly competitive market.
How will Air Macau celebrate the important milestone within the company and with clients?  
Chen Hong: It is a very important milestone for us, and we are planning some celebration activities with our customers – offering discounts for specific products, for instance, or hosting parties with loyal customers. On the employee level, we will focus on activities that can boost morale, loyalty, and corporate culture.

What has Air Macau learned from the experience over the past 25 years?  
Chen: Air Macau has been through a lot of hardship over the last two decades, including the bankruptcy crisis in 2008. But starting from 2010, Air Macau has been making profit for nine consecutive years. This is largely thanks to the robust economic growth of Macao. Therefore, the positioning of our company has to be in line with the positioning of Macao as the World Centre of Tourism and Leisure. As part of the tourism industry, we pledge to promote this identity of Macao. This is a very clear goal for us.

As for myself, although I have only held this position for four years, I have learned a lot through interacting with our employees, customers, and the community. In recent years, we have figured out three development concepts to focus on. Firstly, embrace competition. Last year, Macau International Airport recorded 8.26 million passengers, 40 per cent of whom chose Air Macau. We have always been progressing within a competitive environment. We’re not afraid of competition because it can stimulate industrial development.

Secondly, consolidate the foundation. We need to strengthen our capability, including the safety and efficiency of our service. Aviation is still a relatively new industry, albeit with a century of history. Its technology and service mechanism will just continue to advance.

Lastly, we need to be innovative. We have constantly been exploring new ways to provide more efficient services to the customers. After all, Macao is more than just a world centre of tourism and leisure – I see it as a world-class centre because some products have really reached that standard. Air Macau is working towards providing its own world-class products, ensuring a positive experience for visitors from the moment they board our planes. In this way, we also fulfil our mission to promote the image of Macao.

A banking turn

For years after its establishment on 13 September 1994, Air Macau enjoyed fair prosperity by positioning itself as ‘the transit bridge’ between mainland China and Taiwan. Visitors across the strait enjoyed its efficient service, which guaranteed a 30-minute layover between flights to other mainland cities. Then this profitable niche vanished with the launch of direct flights between mainland China and Taiwan in 2008, just as the global financial crisis wreaked havoc on the young company, pushing it towards the edge of bankruptcy.

That’s when the Macao SAR government, the Liaison Office, and Air China stepped in. While injecting capital into the company, Air China assigned a team of aviation professionals to help Air Macau develop point-to-point flights that positioned Macao as a destination for tourism, leisure, and entertainment. It also expanded the company’s sales network into the fast-growing market of mainland China, and gradually withdrew from cargo service for cost-cutting.

After two years of work, Air Macau rebounded from the financial crisis and has been turning a profit each year since. In 2014, it was awarded the Medals of Merit-Tourism for its outstanding contributions to the industry. Under such momentum, we will maintain a 10 per cent growth rate annually, which is in line with the internal resources of our company. Introducing a plane is easy, as long as we have adequate financial resources. The key is the market, and then the freedoms of the air, as well as the company’s internal resources for security, such as flight capability and maintenance.

Liao Hanxi: Currently, Air Macau covers 18 major cities in China, including Beijing, Shanghai, Hangzhou, Nanjing, and Chengdu. Also allows us the possibility of reaching farther destinations such as Okinawa, Singapore, and Delhi.

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Liao Hanxi: Currently, Air Macau covers 18 major cities in China, including Beijing, Shanghai, Hangzhou, Nanjing, and Chengdu.
These cities make up of 60 per cent of our flight destinations. We continue to see a stable demand for Macao in these major cities, which have brought huge economic contribution to Macao. Meanwhile, we also strive to extend our flights to popular destinations among local residents, such as Nagoya, Okinawa, and Jeju Island.

How will the Greater Bay Area (GBA) Initiative, which aims to put the entire area into a one-hour living circle, impact the aviation industry within the region?

Chen: Under the GBA, the airports within the region will reinforce their specific roles by sharing workload and passenger flow. In this era, we should embrace the concept of ‘competition and cooperation’.

For instance, with the launch of the Hong Kong-Zhuhai-Macao Bridge, Macau International Airport (MIA) and Hong Kong International Airport (HKIA) can further cooperate with each other by dividing the workload. Compared to HKIA, which handled over 70 million passengers last year, the passenger record of MIA is relatively low, making it impossible for our airport to provide the same service as its Hong Kong counterpart, such as intercontinental flights.

In order to mature its aviation industry, Macao still needs to look up to the larger airports in Hong Kong or Shenzhen, while positioning itself as a regional transportation hub serving the area within 3,000–5,000 km of the city.

Now that the government has decided to liberalise the aviation sector, how will this decision impact the operation of Air Macau and the market as a whole? What are your suggestions for ensuring the healthy development of Macao’s aviation industry with the upcoming competition?

Chen: An exclusive franchise in the aviation industry is very different from how it works in other industries, especially in the case of Macao, because right now, there are 27 airlines operating in the MIA. Customers are free to choose between different airlines, so Air Macau has long been accustomed to competition. The real challenge facing an airline company and the overall industry within a liberal market lies in the fact that Macao has limited aviation resources.

First, we need to make sure that we have adequate infrastructure for the entry of another Macao-based company. Macau International Airport is designed for 7.8 million passenger movements a year, but last year, the annual number of passengers had already reached...
8.26 million. If the number continues to grow, how do we make sure that the infrastructure of our airport – including the runway, the taxiway, the apron, and the terminal – can meet the growing demand?

Second, we need a better mechanism for nurturing talents. Right now, there are no aviation-related majors in local universities. The government and society should work with the airline companies to promote aviation education in the city, as well as to draw more overseas professionals, so that the market can support more Macao-based companies. Otherwise, lack of available talent may trigger a head-hunting trend in the market, which will cause instability inside a company and eventually affect the safety level. This is something that really concerns me.

The market is another issue. An airport usually opens another home-based airline when its annual passengers has reached a certain number. For the case of Macao, I don’t want to comment on how much passengers we will need for the survival of a second home-based airline. I hope this could be answered by professional research companies.

Also, we need to establish a comprehensive set of laws and regulations to monitor the competition, covering freedoms of the air, resource allocation and market entrance conditions, in order to ensure the healthy development of the aviation industry. Lastly, any new Macao-based airline should position itself under the context of the GBA, and develop itself with a compliant goal and direction.

What is the role of Air Macau in nurturing local talents for the aviation industry?

Chen: The development of industrial talents is vital for an industry to grow within a region. Air Macau at this moment is the only airline in Macao and we are strongly committed to nurturing local talents. For instance, the company is fully responsible for the cost of training pilots, spending more than MOP40 million (US$4.95 million) each year on such training. With the number of planes set to increase to 25 over the next two years, we will need to increase the number of pilots to 300. We have been trying our best to recruit people in the city, but Macao has such a small population.

We’ve set a very high standard for recruitment: we strive to add 8–10 local pilots each year to keep up with the demand. I believe that in the future, local pilots will take up a certain proportion in our pilot team. We also hope to bring in more young people who are passionate about aviation through different platforms. For instance, we have been reaching out to local universities to promote interest not only in pilot positions, but in other positions such as ground crew and flight assistants.

In 2015, we launched the “Air Macau Walking into Schools” programme; since then, we have regularly arranged local pilots and engineers to exchange with the students at local schools such as Yuet Wah College and Hou Kong Middle School. The activity has been very popular, drawing the participation of 1,000–2,000 students each time.
Poised to become the first two local women pilots in Macao, Joana Choi and Aki Liu prove that it’s never too late to pursue a newfound passion.

Both Macao locals in their early 20s, Choi and Liu have been through a similar education path in recent years. Originally majoring in business administration, the two found another calling towards the end of their university years when they saw the recruitment ad of Air Macau in 2016.

“One of my friends works at the control tower at the Macau International Airport. He told me a lot about the aviation industry, which made me really interested,” Choi recalled. “When I learned that Air Macau was hiring pilots from local people, I thought this career could be perfect for me because it would allow me to travel a lot.”

Liu started off working as a flight attendant at Air Macau. “I didn’t apply for a pilot position that year because I knew nothing about flying at that time,” Liu explained. “But having worked as a flight attendant for a year, I believed I was ready for it.”

That’s how Choi and Liu made the leap to join the Air Macau Local Cadet Pilot Program. Launched in 2016, the programme aims to recruit 10 local people each year and train them to become commercial airline pilots. Each year, hundreds of applicants fight through rounds of trials – from written tests and computer tests on logical and critical thinking, through to panel interviews that evaluate their background and mental status – for a place in the programme.

After being shortlisted, the 10 qualified cadets soon face more challenging tasks. Over the next two years, they will station at École Nationale de l’Aviation Civile, a prestigious aviation school that offers engineering degrees in France, to undergo a seven-month theoretical training of 14 subjects relating to aviation before spending the 9–12 months learning how to fly single-engine and twin-engine aircrafts.

With an unrelated university background, Choi and Liu found learning about engineering and airplane structure particularly difficult. Fortunately, they were not alone in this adventure: “As we are learning together as a close-knit group, we can always count on each other, helping each other out with the different strengths we have,” Liu said.

Liu will begin flight training in about three months, while Joana, who joined the programme a year earlier, is looking forward to returning to Macao in September. From there, she will begin flying with Air Macau captains to get accustomed to the airliners, as part of the six to nine months in-house training that prepares her to officially serve as an airline pilot.

“It has been quite a tough journey, from learning a lot of technical theories to mastering complex equipment on the plane. There is no room for discrepancies,” she reflected. “If you want to be in [the industry], you need to work extra hard and cannot be scared of difficulties or failure.
Macao's medical education is growing to meet international standards with Dr Manson Fok’s vision to improve medical training courses as well as provide students with opportunities for worldwide exposure.
Today, many locals still opt to travel to Hong Kong for medical treatment believing the industry to be more established than Macao. Fok, as a surgeon working in Hong Kong, has seen it first hand and knows how disruptive it can be for families. With average hospital stays at around a week, travelling between the two SARs becomes an added stressor in an already difficult situation.

Beyond better serving the community, Fok sees the new teaching hospital as a potential vehicle for economic diversification in the city. “Maybe Macao can become a regional leader in medical sciences... Medical education and training, medical tourism and bio-technology can be huge, positive industries,” he said.

Clinical training is key

For more than a decade, MUST has been improving on its capacity to provide high-quality training in the medical field. It first opened its hospital in 2006 and began providing specialist training for Macao doctors in 2012. Applying to the government for approval to begin a new medical degree programme was the next logical step.

“There is no shortage of doctors in the population,” said Fok. “The aspiration of Macao people is for doctors to be more personalised and professional, with more medical ethics.”

Most doctors in Macao received their education in the mainland, where there is a lack of clinical training. “The standard of English is not so good, with drugs having different names,” he explained. “I have seen many cases of medical litigation, due to a lack of communication. They were unnecessary.”

The university has prioritised clinical training, establishing the Centre of Excellence for Medical Professional Development (CEPMD) in 2011. There, students use top-of-the-line virtual reality simulation equipment to train for real-life situations ranging from on-road traumas to the ICU. The centre is one of few selected overseas facilities approved by the Royal College of Surgeons of Edinburgh, the world’s oldest surgical corporation which boasts a network of more than 23,000 professionals in 100 countries.

After a process spanning years, MUST received government approval for its Bachelor of Medicine and Bachelor of Surgery (MBBS) programme in January of this year, making it the institution’s fourth medicine-related bachelor. The university has since received over 120 applications, nearly all from Macao residents, and will accept 35–50 of them. The course will commence in September this year.

The course will cover basic science and human anatomy, biochemistry, physiology, pathology, pharmacology, internal medicine, surgery, medical specialty, clinical practice, community and family medicine, as well as intern studies with classes taught in both English and Chinese.

With subsidies applied, Macao students will pay around MOP$55,000 (US$6,803) per year while overseas students pay around MOP$160,000 (US$20,286) per year for the six-year course.

“We will have a clinical focus and an international curriculum,” said Fok. “From the third year, our students will go overseas and work in medical schools in other countries.”

With more than 20 partner universities, including institutions in Portugal, Australia, the US and UK, students will become stronger clinicians through experience with different health delivery systems. They will also see and treat illnesses they might not typically encounter in Macao, experience which will benefit both residents and the city’s growing expat community.

The aim is to have at least 50 per cent local students. “It is more important to get the right students than the right number,” Fok noted. “In Hong Kong, several thousand apply for medicine at HKU and Chinese University; only a third get in. Some may wish to apply here.”

Local graduates will be offered work in hospitals in Macao after completing their studies. With
“We have the advantage in that we are starting from scratch. We have no baggage and can innovate. For the first year, we plan to have half a dozen full-time staff, as well as, part-time teachers and clinical doctors.”

Advancements in technology, Fok contends, make memorisation less important than it once was. “They can find it on the internet. We must help them think properly and apply what they have learned,” he said.

That’s where the gadgets come in: models of bodies and machines will allow students to practice endoscopy, colonoscopy, and other treatments. “They can practice hundreds of time on these models and machines before they work on real patients. The doctors of the future will be better than we are.”

Price of progress

The main uncertainty hanging over the new course is funding. Training a doctor is one of the most expensive courses a university can undertake. In Hong Kong, for example, it costs HK$3 million (US$382,183) to train one. The programme requires substantial capital: to build the new hospital, purchase the necessary equipment, and pay salaries sufficient to attract the quality teaching staff that Dr Fok wants. Tuition fees will only cover a fraction of the cost.

However, Fok contends, “monetary benefit” is not the goal of the new hospital and medical programme. “We want to let the Macao community feel that this medical school is for them, so they will support it. We will also seek support from the government. Dr Liu Chak Wan, chancellor of MUST, has promised his full support.”

Fok himself is well placed to raise money. Over his decades of professional life, he’s acquired an international profile and broad network of contacts in the medical and investment worlds.

A graduate of the University of Hong Kong, Fok has been a practicing surgeon since 1982. He is founding chairman of Pedder Clinic and Virtus Medical Group, two of the largest medical practices in Hong Kong, the latter with expansions in the Greater Bay Area and major cities in mainland China.

Fok has also enjoyed great success on the R&D side of medicine. He serves as a director at Athenex, a global biopharmaceutical company focused on the discovery, development, and commercialisation of novel therapies for treating cancer. Listed on the Nasdaq in New York on 14 June 2017, it has a market capitalisation of nearly US$1 billion with about 60 per cent owned by Hong Kong investors.

He is also chairman of the Hong Kong-based Avalon BioMedical Management Ltd, an investment holding company focused on the development and commercialisation of Asian life sciences products.
For 20 years, a department within the University of Macau has been a pioneer in creating computer systems for Portuguese and Chinese translation used by government departments, law firms, schools, and translation companies.

The university’s Natural Language Processing and Portuguese-Chinese Machine Translation Laboratory (NLP2CT) recently developed and tested its next generation online Chinese-Portuguese-English translation platform.

“A computer will never replace a human translator,” said Prof Derek F Wong, associate professor and head of the laboratory. “A professional interpreter is still far ahead. What our systems do is the basic translation, leaving people to do the more difficult and challenging work. We save their time and energy.”

Their platform functions as a “translation management system,” enabling users to monitor the progression of current translations as well as access a history and glossary of what has previously been translated.

Where some languages, through their close history, make for relatively straightforward translation, Portuguese and Chinese could not be more different.

Portuguese is a Latin-based language written in the Roman alphabet. As with most modern Romance languages - French, Italian, etc - nouns are masculine or feminine and verbs change according to the tense and subject. These particularities can present a challenge to non-native speakers.

A new and improved Chinese-Portuguese-English translation system has been created to allow versatile cultures to connect and meet the demand for translators in the future.
On the other hand, Chinese is based on characters which do not change their form. Nouns have no gender; verbs do not change – the time element is expressed by adding an additional character like ‘past’ or ‘future’. The problem for students is that each character has to be learned from scratch; only Japanese and Korean speakers have a head start, because their languages use many of the same characters.

What Wong and his team at NLP2CT have done is create a machine translation programme that converts a text from the source language into the target language. Their neural machine translation (NMT) is a cutting-edge model that uses deep-learning algorithms to learn linguistic rules and compute statistical modelling on its own from parallel bilingual text corpora for text translation.

The previous rule-based (RBMT) and statistical machine translation (SMT) methods operated on symbolic representation, making it impossible to abstract away the meaning of text. By contrast, NMT uses distributed vectors to represent words or sentences, which is a form of representation in semantic space. This allows NMT to generalise well the similarities between words and the dependency relations of words. The translation of a sentence is carried out in two steps: the source sentence is first transformed into a vector representation using a neural network. With this sentence representation, another neural network is used to recover the sentence in its target language. The process is known as the encoding and decoding. Instead of evaluating the translations of words or phrases as its predecessors did, NMT considers the entire sentence in translation. This makes the translations produced by the NMT more accurate and fluent.

Needs of the handover

Ahead of Macao’s handover to China in 1999, the government found itself with a large volume of Portuguese documents to translate but no tools to do it. There were systems to translate English into Chinese and vice versa, but not for Portuguese.

That’s where Wong’s team came in, developing the PCT (Portuguese-Chinese Translation) Dictionary for release in 1999. “It was the first such dictionary with pronunciation in Mandarin, Cantonese, and Portuguese; it was cutting edge,” Wong noted. “Before, Macao had no specialists in this area. Our university has developed outstanding students. Some have gone to work in large firms in the mainland, like Alibaba, or set up their own firms.”

The university registered the PCT system as a trademark; it is now in its third system. Government interest in their research has grown in recent years, garnering SAR government support for the lab. In 2016, the Macao Polytechnic Institute built on its own history of training translators by setting up a similar laboratory, which Wong sees as “a good development.” Wong’s team has worked with top universities in Portugal, Brazil and mainland China, such as Tsinghua University, to deepen its research and transform research results into marketable products for the Chinese-Portuguese translation market in Macao and the broader Greater Bay Area (GBA).

Their second product, PCT Assistente, debuted in 2003 as the first Chinese-Portuguese machine-aided translation system. While the first iteration of PCT Assistente embedded directly into the Microsoft Word environment, Um2T, another product from the lab, offers an online interactive Chinese-Portuguese machine translation system. Accessible to translators around the world, Um2T employs state-of-the-art neural machine translation architecture and technology. To help train language professionals, the university developed a
By 2020, government departments would need an additional 164 Chinese-Portuguese and 54 Chinese-English interpreters, an increase of 71 per cent over 2013.

Meeting market demand

Demand is growing rapidly for high-quality machine translation systems, in government, business and culture. One reason is implementation of the Belt and Road Initiative, which has increased contacts in all sectors between China and Portuguese-speaking countries (PSC). Another is Macao’s unique role as a bridge between China and the PSC, as well as its aim to become a ‘smart city’. Macao has the largest number of native Portuguese-speakers of any city in China, between 6,000 and 7,000. It also has an abundant supply of language professionals, with local universities offering courses in a number of languages.

In 2013, each government department translated on average 690,000 words, at an average cost of MOP1.1 million (US$123,655), with an average oral translation of about 101 hours. No wonder then that, according to official figures issued in 2014, 51 out of 55 SAR government departments surveyed said that they needed translators. They projected that, by 2020, government departments would need an additional 364 Chinese-Portuguese and 54 Chinese-English interpreters, an increase of 71 per cent over 2013. While the primary language of the SAR government in Chinese, it must translate laws and major administrative announcements into Portuguese.

There is also a boom in the study of Portuguese throughout China. Now 45 universities in China, including Macao, offer courses in it, increasing from just 10 two decades ago. All this is a result of globalisation and the rapid increase in the exchange of goods and people, especially from China. Chinese companies are aggressively investing and trading in Brazil and other PSC.

According to Common Sense Advisory Research (CSA Research), the market for translation services in China will reach US$3.5 billion in 2020, up from US$2.8 billion in 2016. They found that, in 2015, Europe accounted for the majority (53.9 per cent) of the world’s translation market, followed by North America (34.82), Asia (10.49), and Africa (0.11). While the US remains the largest single market for translation services – followed closely by Europe – Asia is the largest growth area for the industry.

A personal touch

For all of the advances made in machine learning, when heads of state meet each other, they are accompanied by interpreters – not a robot or computer. This is because communication isn’t limited to words. Gestures, facial expressions, tonality, and even the words left unsaid, play a role in these interactions. Many languages use wording that is intentionally ambiguous and subtle elements can make all the difference. When the stakes are this high – trade deals, alliances, armed conflicts – there’s no room for error. That’s where a human touch is still imperative, to navigate the multitude of inputs that even Prof Wong’s high-quality machines still miss. For the rest of us, eager to explore and interact in this ever-globalising environment, tools like those developed at University of Macau make understanding possible.
Pires, along with two other Portuguese diplomats who helped lay the foundation for European and Chinese links, features in the "Three European Embassies to China," on display at Museu do Oriente in Lisbon until 21 April. The exhibition curator, Prof Jorge dos Santos Alves, rejects the traditional interpretation stating that Pires' 1517 embassy, which disbanded before even reaching the Chinese emperor, was a failure. In fact, he contends, the inroads and the knowledge gained proved highly relevant in subsequent stages. "It was phase one of a learning process," Santos Alves told Macao Magazine in Lisbon.

With this embassy, "the Portuguese entered the radar of Chinese diplomacy. For the first time, there is an approach. But most of all, the following embassies no longer made the same mistakes."

Due to its seminal nature, Pires' embassy had many flaws. To begin with, the Portuguese were not even known to the Chinese Empire, who termed them 'franks' based on Asian contacts with crusaders fighting under Charlemagne, King of the Franks. Rather than referring to the specific Germanic tribe, China applied it to Western Europeans in general.

Pires arrived in Canton in 1517 only to discover that, as the representative of an unknown kingdom, he was barred from travelling north to the emperor. The embassy faced many setbacks while it lobbied for admission, including the arrival in Canton of a Portuguese armada under Simão de Andrade. Then, precisely as Pires was struggling to obtain passage, the emperor died and all trade was suspended.

Even the terminology used for the Chinese emperor in the letter signed by Portuguese King Manuel I – "my brother" – caused problems: "The letter arrived translated in terms that were not acceptable. The Chinese emperor did not acknowledge ‘brothers,’ much less among ‘barbarians’ whose origins were unknown," Santos Alves explained.

To avoid such missteps going forward, Pires began writing a book in Malacca based on interviews, research, and translations of Asian texts. The Suma Oriental offered a depth of knowledge previously unseen in the Western world, revealing to the King of Portugal many of the secrets of Asia, the world’s richest region at the time.

"It’s a survival kit, a guide to Asia – it’s politics, diplomacy, military issues, religions, finance, anthropology, sociology... everything is there. It was the first major European description of Asia." Much of the information is sensitive, what later became known as intelligence, so the book was handled with care by the Portuguese Court. In fact, only two manuscript copies of it are known: one in the Portuguese National Library, abridged; and another, in the library of the French National Assembly, complete.

A complete version wasn’t printed until 1948, finally recovering Suma Oriental as a resource for historians. This year, Lisbon’s Fundação Oriente is set to publish the first complete annotated version in English.
Key to Pires’ efforts were the overseas Chinese, from second or third-generation Chinese families who had spread across Southeast Asia. Mainly comprised of traders and merchants, these men served as interpreters to the Portuguese in Malacca as well as information sources and emissaries to kingdoms in the region. Some of them operated legal trade routes, others did not. This decision by the Portuguese to establish links with smugglers led to clashes, even sea battles, with China, Santos Alves explained.

Malacca was, at the time of Pires’ arrival, a key trading outpost between India and China. The exhibition attempts to illustrate the diversity of people, ideas, and goods that circulated in the port, including original 16th-century Chinese porcelain from private collections and from Portugal’s Museum do Oriente. His original mission in the new colony was to buy pharmaceutical goods for the court, but the apothecary was later entrusted with accounting at the Malacca outpost, evidenced by a 1512 original account book bearing his signature. In Santos Alves’ words, Pires was a “one-man band.” Such historic documents are presented alongside objects that help illustrate the richness of the region. These include spices like turmeric and ginger, which were also used as medicine at the time, as well as the mythical bezoaar stone, a Central Asian product used as an infusion against fevers which was highly coveted in Asia.

On a more contemporary note, visitors can observe a 20th-century painting of Tomé Pires by acclaimed painter Júlio Resende, among other artistic works. It includes a sign for the street bearing Pires’ name, which in Macao, ends where the street named for Fernão Mendes Pinto begins. Although Mendes Pinto is credited with issuing “Macao’s birth certificate” in his letters, according to Santos Alves, Pires “opened the door to establishing the Portuguese in Macao.” Pires began “the modern age diplomatic relations by the Portuguese in China,” he asserted.

The judge who impressed an Emperor

The “Three European Embassies to China” exhibition takes visitors through a combination of historical facts and documents with 70 pieces, including religious art and other valuables. One highlight: a rarely shown letter from Emperor Qianlong to Portuguese King Joseph I, dated 1753. The four-metre yellow silk letter, purportedly sealed by the emperor himself, is considered one of a kind. Richly decorated with dragons and red Chinese and Manchu stamps, it contains Chinese, Manchu, and Portuguese writing. Jesuit priests working for the Chinese Court assisted in the translation, as well as the difficult diplomatic and ceremonial arrangements for the emperor’s audiences with the ambassador.

Qianlong’s letter represented the culmination of a highly successful embassy by Francisco Pacheco de Sampaio, a country judge whose appointment remains difficult to explain today, according to curator Jorge dos Santos Alves. This “absolutely remarkable man” prepared extensively for his mission, reading “everything there
was to read about China," from the royal libraries, researching and interviewing experts. As a result, it was the best-prepared embassy – and the best documented; even a detailed expense account remains, complete with the price of all the items sent to the Chinese emperor as gifts.

An emerging military power in the Indian Ocean at the time of Tomé Pires’ embassy, Portugal’s political, diplomatic, and military power had faded by the time Pacheco de Sampaio travelled to Beijing. In fact, tightening the country’s grip on its Asian colonies was part of his mission.

In spite of this decline – or perhaps because of it – along with the emergence of other European powers in Southeast Asia, like Great Britain and France, Pacheco de Sampaio appears to have made a mark on Emperor Qianlong. He received the Portuguese ambassador not once but three times, even inviting him for a banquet. Pacheco de Sampaio even had to postpone his departure because Qianlong wanted to have his portrait painted three times – one for the palace, another for the Jesuit mission, and a third as a gift for the ambassador.

This is not to say that the mission was without difficulties. Perhaps the biggest, Santos Alves noted, was actually making it happen, because of differences about the status of the embassy. Even though China’s power had diminished somewhat by the 18th century, it still saw itself as the centre of the world, and “barbarians were always considered subjects.” For the Portuguese ambassador, the key concept was parity between states; Jesuit priests were essential in finding common ground.

The remarkable stranger

Another highlight of the exhibition is a reproduction of the rarely seen 1245 decree from Pope Innocent IV nominating Franciscan Friar Lourenço de Portugal as Ambassador to the Mongol Empire; the original sits in the Vatican Secret Archives. Although little is known about Lourenço, there is no doubt that the Pope entrusted him with important missions, likely because of his legal expertise and diplomatic skills.

The mission to the Mongol Empire was a high-stakes one. At the time, the Mongol invasions had reached Vienna, deep in Central Europe, after a lightning-fast conquest of Eurasian territories. The Vatican, which had an overwhelming influence over European kingdoms, had been left
guessing who the invaders were, neither Christian nor Muslim. Amid “panic” in the Vatican, Lourenço was chosen to lead the embassy. While involved in the preparation and launch of the Pope’s initiative, for some unknown reason, the ambassador did not depart with the entourage. Another Italian diplomat ended up leading the mission, which succeeded in stopping the invasion. It is one of the many mysteries that surround this “remarkable stranger,” as Santos Alves calls him. A future research project is expected to shed light soon on Lourenço, and how he became one of the most influential members of Innocent IV’s court.

As in the other two sections of the exhibition, visitors explore the period through religious objects (European and Asian), luxury trade goods (porcelain, glass) and books (a 16th-century Portuguese edition of the Travels of Marco Polo – “contemporary echoes,” as the curator calls them. Intense trade meant the same kind of luxury glass used for perfumes could be found in Portugal and in Indonesia during Lourenço’s time: “This was the 13th century, but everything worked: diplomacy, goods, people, perfumes, porcelains, Marco Polo…” Santos Alves said.

The idea of a “closed China” persists, but he noted, “today we know that cultural, commercial, and diplomatic contacts between the West and China in its various dynasties was more or less regular, though not constant.” Other than showing the long duration of European-Chinese relations, the exhibition aims to bring to light the “learning process” in this relationship, the “fine tuning” of the approach, made of steps forwards and backwards over many centuries.

While tension – even outright war – existed between China and European powers at end of the 19th and beginning of the 20th centuries, relations with Portugal remained largely peaceful and positive. Opened a few months after the visit to Lisbon by Chinese President Xi Jinping, and at a time described by both governments as the best ever in historical and economic relations, the exhibition also spotlights the importance of the bilateral “learning process.” A process that has borne fruit, according to Santos Alves, in the centuries of Portuguese presence in Macao and the city’s peaceful handover to China, 20 years ago - and sets the stage for a new beginning.

Three European Embassies to China is on display at Lisbon’s Museu do Oriente until 21 April. For more details, visit museudooriente.pt.
Sinulog: Dancing and devotion for Santo Niño

Text Cláudia Aranda   Photos António Sanmarful
The Sinulog Festival, one of the most popular religious celebrations in the Philippines, is held annually every third Sunday of January. In Macao, this tribute to the Child Jesus is also an occasion for the Filipino community to come together and ease the homesickness, while others take centre stage to shine as dancing queens.

For a large contingent of the Filipinos living and working in Macao, the Sinulog Festival is a once-a-year opportunity to experience their own Cinderella-style transformation, from cleaners, housekeepers, security guards or domestic helpers to dazzling queens. Shining in their sparkling makeup and glamorous clothes, they pour their hearts and souls into showing off their acting and dancing skills.

Their elaborate costumes are paid for out of pocket or sponsored by local benefactors, explained the queen of one of the groups in the parade, herself dressed in a white ball gown, carrying a golden paper-made crown covered of flowers and a small replica of Santo Niño (Child Jesus). Others shined in fairy-tale costumes of red, green or blue, topped by peacock feathers or extravagant hats.

On 20 January, devotees flocked to Saint Augustine’s Church for an 11am Mass held at the church, which serves as the religious heart of the local Filipino community. Carrying replicas of Santo Niño dressed in brilliant red, green and gold clothing, a few hundred Filipino women and men gathered after Mass to dance in front of the church. Father Andy Vergara, who led the Mass, has been a priest in Macao since 2014 and is one of the three Filipino ecclesiastics in the Pastoral Care for Migrants Workers.

Playing drums outside was a group of young men, aged 19 to 23 – João Pascual, Jai Cuevas, João Magat, João Paulo Alfonso, Mac Ramos, and Marco Rodriguez – all born and raised in Macao. Coincidentally, they were also registered with the same Portuguese name ‘João,’ the preferred option from a list of mandatory names at the time they were born. Despite having been brought up immersed in a different culture, every year they get together to join the Sinulog.

“There are six competitors [in this year’s Sinulog Dance Competition] and we will be the ones providing the beat for the dancers,” they explained. The beat, called Cebuano, comes from the Philippines. “Because Sinulog comes from Cebu, we got the inspiration from the beats by watching videos,” they said, adding that the result is a kind of “Filipino samba.”

Connie, Emily, Jocelyn – all domestic workers on their day off – joined the dancing outside the church. “We always participate and assist in what is needed,” said Jocelyn, a non-resident worker who’s lived in Macao for eight years.

Father Andy Vergara
Finding home in the festival

The Sinulog festival in Macao started “as simple devotion, like a family event organised to venerate the Santo Niño,” said Violeta Duran, president of the Santo Niño de Cebu in Macau Association, originally a small group of devotees in 2000 before being officially established in 2003.

“Later, when we decided to open this event to the public and we started to organise it with the Macao government, we created the association and the Sinulog entered in the Macao festivities’ calendar,” she explained.

“Santo Niño is really important for us, because it opened our eyes to Christianity. Before we did not know about Jesus,” Duran reflected. A graduate in commerce and single parent of three, Duran has lived in Macao since 1993, working as a non-resident domestic worker. “It is very relevant for us and that’s why our faith is very strong in Santo Niño.”

The Santo Niño fiesta is also an occasion to convene the community. “The Sinulog is considered to be a big event for the Filipinos in the sense that all Filipinos unite. Those available at the time, they come to join the event,” Duran said. “It helps us a lot, because in Macao we are foreigners. With this event, the home sickness will be lessened because, for a brief moment, we feel like we are in the Philippines; people unite to feel at home.”

The Sinulog festival, a ritual prayer-dance glorifying Santo Niño held every third Sunday of January, is considered one of the most popular devotions and religious celebrations in the Philippines. The event marks the country’s conversion to the Roman Catholic faith following the arrival of the Portuguese explorer Fernão de Magalhães, who planted the cross on the shores of Cebu in 1521, claiming the territory for Spain.

Aside from the religious aspect, Sinulog is also famous for the dance parade. “Sinulog comes from the Cebuano word sulog, the dance step of Sinulog, which describes the water current movement and the forward-backward movement of the Sinulog dance,” explained Father Ryan June Real, a member of the Pastoral Care for Migrants Workers and one of the attendants of the parade.

This year, the festival featured a total of six groups gathering at the Sai Van Lake Square, outside Macau Tower, and then parading through the surrounding area. The participant teams included a group from Hong Kong, Queen City of the South, but it was the Bisak Association of Macau that took the grand prize, followed by the Orient Premier Tribe and the Debutantes in Macao as first and second runners-up respectively.

Nine days of nightly Novena prayers for Santo Niño precede the festival, sponsored by different benefactors and organisations. In Macao, small groups gathered for prayer in the Catholic Pastoral Center, not far from the Inner Harbour, and in the New Allied Cleaning Services’ office in Areia Preta.

Sinulog comes from the Cebuano word sulog, the dance step of Sinulog, which describes the water current movement and the forward-backward movement of the Sinulog dance.

Father Ryan June Real

There, a hand-painted wood image of Santo Niño dressed in golden clothes sits upright on a table in front of the main entrance, surrounded by other replicas of the Child Jesus. Jamelito Escote, businessman and owner of the company (established in 1994), has opened his door to worshippers since 1999, welcoming local Filipinos to pray in the run up to Sinulog.

“It is our tradition as Catholics to celebrate and praise this image,” said Escote, himself a devotee of the Child Jesus and resident of Macao since 1988. Food is served after Mass on the office’s ground floor; tables laden with spaghetti with pork and vegetables known as pancit, the vegetarian dish pakbet, and other Filipino recipes. Everyone is welcome to join.
Life on the ‘Filipino Street’

Like the drum players at the Sinulog, Francisco José Fajardo, a former IFT (Institute for Tourism Studies) student, is also a resident, born and raised in Macao. Standing behind the counter of the small pastry shop on Rua da Alfândega, widely known as ‘Filipino Street,’ Fajardo shows the desserts. There are chocolate brownies, cheesecake, or the popular Filipino rice and coconut multi-coloured sticky pudding, sapin-sapin.

He used to work in the casino industry but started running this small business two years ago when his parents, owners of the original Anak Philippine Bread, opened 16 years ago on the same street, suggested he become the shop’s manager and baker.

“The customers are mostly Filipinos, around 70 per cent, while 30 per cent are Chinese. Portuguese are very few,” said Fajardo, who learned the recipes from his mother.

Walking down the one-way street a few metres before turning left onto Happiness Street (Rua da Felicidade), there was a small crowd of Chinese, Filipinos, Indonesians, and Thais gathered at the bakery. They ordered pandesal, a type of plain bread, or pan de coco with coconut; putopao or siopao, the Philippine version of Cantonese steamed pork buns. It’s day one in the 2019 Chinese New Year’s calendar and the narrow street was quite busy, as many Filipino and Indonesian domestic helpers were off duty.

“We also have Filipino customers coming from Hong Kong. It’s much easier with the new bridge, and they want to have the experience of crossing the sea by bus,” said Crisostomo Fajardo, owner and founder of Anak, referring to the new Hong Kong-Zhuhai-Macao Bridge.

Fajardo, father of Francisco Fajardo, explained that he and his wife, Lucelle, have been in Macao since 1989. He used to work in the hotel industry, but in 2003, the couple decided to take the risk and abandoned their jobs to start the bakery shop. Called Anak, or ‘child,’ it is also the name of an iconic Tagalog song written by the Filipino folk-singer Freddie Aguilar.

“We were the first Filipino shop to open on this street; before, there were only Chinese businesses,” said Fajardo, explaining that all the Cantonese he speaks was learned through daily contact with local customers during his 16-hour work days. For only five patacas, customers can take home six pieces of...
pandesal. “The price remains the same as when we opened 16 years ago,” he noted.

Today, many fewer Chinese shops remain open on Rua da Alfândega, competing with Filipino restaurants, hairdressers, fashion boutiques, or takeaway providers like Onie Rosa’s little window-shop, Avilandia Café. “Do you want to taste my food?” she asked in Portuguese, pointing out to the multi-coloured Filipino dishes displayed in the glass counter.

Rosa married a Portuguese citizen in 1985 and holds a Macao permanent resident identity card, like the Fajardo family. Rosa, who will be 60 years old this year, is a graduate in chemistry from the Philippines. She used to teach English at Colégio de Santa Rosa de Lima before getting a job at CEM (Companhia de Electricidade de Macau), where she worked as a chemical analyst for 25 years.

The shop, opened by Rosa in 2016, became a kind of meeting point for the Filipino community on their days off. Most are domestic helpers or hotel and casino employees, mainly non-resident workers holding a work permit or ‘blue card,’ normally with a limited-term visa, depending on the recruiting employer or company.

Filipino presence in Macao

The Filipino community in Macao comprises a large portion of the city’s non-resident workers, representing 16.6 per cent, according to the Macao Statistics and Census Service. Most of the city’s non-resident manpower, 62.6 per cent, comes from mainland China.

There are 31,470 non-resident Filipino workers in Macao, half of them working as domestic helpers and the rest as professional workers as casino and hotel employees, according to data provided by the Consulate General of the Republic of the Philippines.

Filipino presence in Macao

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<th>Top three industries hiring Filipino workers</th>
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<td>Domestic work</td>
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<td>Hotels, restaurants and similar activities</td>
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<td>Real state, renting and business activities</td>
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Filipino permanent residents 2,407

Births to Filipino parents since 2018 1,681

Filipinos who have permanent residency benefit from equivalent advantages and assistance as other Macao residents. “We have to admit that the support and benefits that all permanent residents in Macao get are quite exceptional compared to other countries and to what residents get in Hong Kong and nearby area,” a Filipino academic and Macao permanent resident who preferred not to be named, told Macao Magazine.

“The government support is something that we have to be very grateful and thankful for,” he added, emphasising the support provided “to the elderly, the subsidies for the kids’ education” and the “basic medical services available at the hospital and private clinics.”

While non-residents Filipinos are the majority, there are also 2,407 permanent residents in the territory, as of September 2017. Since the consulate was established in Macao in 2008, the office has registered 1,681 births to Filipino parents. In some instances, “the parent or parents have brought their children back to the Philippines for lack of resources available to keep them here,” Consul-General Lilybeth R Deapera told Macao Magazine in a written interview. She added that non-resident workers also find that “the housing allowance is not enough to finance their own accommodation.”

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Anak pastry shop on Rua da Alfândega

Francisco José Fajardo

Lilybeth R Deapera, consul-general at the Philippine Consulate General in Macao

Tradition

Tradition
An unexpected life unraveled for Cheung Po Tsai as he rose through the ranks of piracy only for a twist of fate to have him become a successful pirate catcher for the Qing Navy.

His story is the stuff of legends: a random boy kidnapped by pirates only to rise up the ranks to command a massive fleet alongside his lover, and when all seemed lost, securing his spoils and a position of power in the same government he tormented for years as a pirate.

Cheung Po Tsai – literally Cheung Po the Kid, like many an outlaw before and after him – packed a lot into his short life: 15 years as a commoner, 12 years as a pirate, and 12 years as a pirate catcher in the Qing navy. Traces of the 19th century pirate can still be found today, in the landscape of Hong Kong and in the stories told on screens big and small.

An unlikely beginning

Born in 1783 in the Xinhui district of Jiangmen, Cheung came from humble beginnings as the son of a fisherman. That all changed when, at the age of 15, he was abducted by a powerful local pirate named Cheng I. Forced to join Cheng’s fleet, the young Cheung soon impressed the pirate and began to rise up through the ranks. He became heir to Cheng I after the pirate and his wife adopted him as their stepson.

When Cheng died in Vietnam on 16 November 1807, Cheung was the obvious successor. His widow, Ching Shih, while formidable could not command the Red Flag Fleet herself. But her cleverness ensured that she and Cheung retained the loyalty of Cheng’s relatives who led other pirate vessels, effectively stifling any threats to their power.

The two soon became lovers, sharing control of the new fleet: Ching Shih handled business affairs while Cheung was responsible for the military side of the operation, with Cai Qian serving as a loyal lieutenant. His wife, a weapons expert who spoke fluent English, had enabled the pirates to acquire weapons from Western arms dealers.

Based on outlying islands in the South China Sea, the Red Flag Fleet was one of several pirate groups that made their living targeting the Pearl River Delta, then (and now) the most prosperous region of China. They exploited the decline of the Qing dynasty, its navy unable to effectively protect the commercial vessels and ports in the Delta.

Delta residents were forced to pay ‘protection’ money to the fleet, while merchant vessels wanting to pass through the area paid a tax. Not satisfied with these schemes, Cheung and Ching Shih expanded into blackmail and extortion, developing an extensive spy network in the mainland.

Ching Shih used the profits from their various ventures to create a supply chain, contracting with farmers to supply them with food, and built the fleet to a point that surpassed many navies. At its peak, they numbered an estimated 1,800 vessels and 80,000 followers, operating along the coast of the South China Sea and as far south as Malaysia.

Like many pirates, Cheung and Ching Shih operated under a complicated code of ethics. While Cheung sometimes gave food and money to the poor, making him something of a Robin Hood figure in their eyes, he also oversaw horrific violence. Raided towns were subjected to rape and murder, and female prisoners were often sold to the crew as ‘wives.’ Their massive crew faced similarly harsh punishments for most infractions, with death sentences issued for everything from stealing loot to going ashore without permission. The pair ruled with an iron fist, and for years it served them beautifully, adding to their numbers – and their treasure.
Then the fleet suffered a heavy blow in 1809. When the Qing navy discovered that Cai Qian had docked in Wuzhen, Zhejiang province, they blockaded him inside the port. The Qing were not about to waste an opportunity to retaliate against the pirates who had harassed their waters for so many years. Cai likely died during the attack when cannon fire sunk his ship, although the more colourful stories claim he committed suicide – a single shot to the head with a golden bullet.

As much as they frustrated the Qing government, the Red Flag Fleet had left European vessels alone. But the temptation became too great, and in early September 1809, the pirates seized a Portuguese trading ship travelling from Timor to Macao, both Portuguese colonies at that time. They killed the entire crew before making off with their loot.

**Battle of the Tiger’s Mouth**

In response to the massacre, the Leal Senado ordered Captain José Pinto Alcoforado e Sousa to lead three armed vessels to attack the Red Flag Fleet. At the governor’s request, a British fleet anchored in Macao agreed to join the attack. The first battle took place on 15 September 1809. The Portuguese vessels confronted the far larger contingent of the Red Flag Fleet, numbering 200 ships, in the Humen Strait off the Pearl River. The promised assistance from the British fleet never came, yet with 39 artillery pieces, the Portuguese managed to win the day, forcing the pirate ships to scatter.

While not a total victory, the outsized showing by the pirate fleet to scatter. The Portuguese once again came out on top. After some nine hours of fighting, they had sunk 15 pirate ships and badly damaged several others. The Red Flag Fleet fled, regrouped, and attacked again only to incur more losses.

With aid from the much larger Qing fleet not forthcoming, the Portuguese decided not to push their luck and returned to Macao rather than pursue the pirates. On 11 December, Cheung launched an attack against the Portuguese flotilla, striking closer to Macao than any previous clash. His attempt to bring a decisive end to the battle failed utterly. Not only did he lose a further 15 ships, his failed attempt at negotiating a peace deal with Alcoforado cost him a valuable ally, the Black Flag Fleet. With those pirates now firmly on the government’s side, Cheung’s supporters began to lose confidence in their commander and the likelihood of success. Many deserted.

Clashes in early January inflicted further losses on the dwindling Red Flag Fleet before the final and decisive battle on 21 January 1810. Cheung threw everything available – over 300 ships, 1,500 guns and 20,000 men – against the Portuguese flotilla, anchored near Lantau Island. It backfired horribly: the massive number of pirate vessels struggled to manoeuvre around each other, offering up a slow, heavily clustered target for the superior Portuguese artillery. When Alcoforado spotted an extremely large junk, transformed into a floating pagoda, at the centre of the pirate fleet, he ordered artillery to fire on it until the badly damaged vessel sank beneath the waves. Seeing that, the pirates retreated into the shallow Hang San River where they were trapped by a Portuguese blockade.

Known collectively as the Battle of the Tiger’s Mouth – taken from the Portuguese name for the strait, *Boca do Tigre* – these clashes brought Cheung’s short but successful career in piracy to a close. After holding out for two weeks under blockade, Cheung sent a request to the Portuguese commander for an emissary to negotiate the pirates’ surrender. Alcoforado chose instead to go himself, taking a small vessel to meet Cheung aboard his flagship. Impressed and flattered by his bravery, Cheung abandoned his original plan – using negotiations to capitulate to the Qing authorities.

On 21 February, the pirates signed a peace treaty under which they agreed to submit to the Qing emperor and Cheung, to become an officer in its navy with the mission of everyone, the Portuguese navy made no claim on the booty – greatly impressing the Qing officers.

Cheung became a colonel in the Qing navy and was assigned to the Penghu Islands, an archipelago in the Taiwan Strait. The Qing gave him command of 30 ships and allowed him to retain 30 of his own as a private fleet. He spent the rest of his life fighting pirates, helping the Qing to cripple piracy in the region by the 1820s.

Cheung and Ching Shih were married, their nuptials witnessed...
On 20 April 1810, Cheung formally handed over his fleet and weapons: 280 ships, 2,000 guns, and more than 25,000 men.

Dead at 39 years old, Cheung had served 12 years with the Qing navy – the same amount of time he spent as a pirate after being kidnapped as a teenager. Now twice widowed, Ching Shih moved to Macao where she opened a gambling house and a brothel. She died peacefully in 1844, a grandmother of 69 years old; her descendants still live in the city today.

Lasting legacy

While his blood may be in Macao, it is Hong Kong that still bears the influence of Cheung Po Tsai. He built several temples to the deity Tin Hau, goddess of seafarers, in Stanley, Ma Wan, and Cheung Chau – which is also home to Cheung Po Tsai Cave, a small, natural cave said to be where Cheung stored his loot during one episode in the fateful Battle of the Tiger’s Mouth.

Perhaps it is this historical connection that makes the site such a popular attraction for trekkers and treasure hunters today – after all, Cheung utilised many caves throughout the outlying islands of Hong Kong during his time as a pirate. Visitors to the Cheung Chau site enter via a ladder, descending 30 metres to a path that extends another 90 metres before reaching the exit. The space is so narrow visitors can only move one by one, with nothing but their own flashlights to illuminate the darkness.

Cheung Po Tsai left his mark on popular culture as well, his thrilling life story inspiring many Hong Kong films, including the 1973 film The Pirate, as well as television dramas like the 2015 series Captain of Destiny. He even inspired a character, Sao Feng (played by Hong Kong actor Chow Yun Fat), in the Hollywood blockbuster Pirates of the Caribbean: At World’s End.
Potential for Timorese coffee despite challenges
Although coffee is not the only agricultural business of Timor-Leste, it is the leading product that has brought much worldwide exposure and economic gains for the community.

Most international attention on Timor-Leste is directed at the fortunes of the Greater Sunrise hydrocarbon project, but another sector has the ability to affect Timorese lives more directly. Coffee accounts for 90 per cent of the country’s non-oil and gas export revenues and has the potential to play a much bigger role in rural development. Yet with half the yields per unit area of even Papua New Guinea, the sector requires a substantial overhaul.

There is some controversy over whether it was Chinese traders or Portuguese colonists who first brought coffee trees to the country. Either way, by the 1860s coffee accounted for at least half of the territory’s entire export revenues, with only a small number of Portuguese landowners controlling both cultivation and sales.

Like many other parts of the economy, the coffee sector suffered from underinvestment during the 1975–99 Indonesian occupation and the armed resistance. Far too few coffee trees were planted and so farmers became over-reliant on ageing trees. Little investment was made in passing on skills or adopting new techniques, and both coffee quality and productivity declined as a result. Since independence, there has been some replanting as well as some training programmes being held; however, much more is needed.

Existing trees could benefit from pruning but this would make them unproductive for at least two years, which would represent a big financial sacrifice for concerned farmers. In addition, the country is not ideal for coffee cultivation due to the short rainy season, prolonged dry periods, and low soil fertility rates; beans are still often sorted by hand.

The World Bank calculates yields at just 150–200 kilos of green beans per hectare, one of the lowest rates in the world. Part of the problem in supporting the sector is the lack of reliable data. Estimates of the number of coffee farms vary from about 46,000 up to 67,000. The country exports about 100,000 60kg sacks of coffee a year, although the figure is slowly rising. Timor-Leste is the source of the Timor Hybrid, sometimes called Tim Tim, a strain of coffee tree that spontaneously emerged before World War II from Arabica and Robusta strains. Known for producing pest and disease resistant plants, it offers high-quality beans and high yields, and is cultivated around the world. Arabica coffee trees are traditionally sweet but fragile, while Robusta – as the name suggests – has a harsher taste but is more disease resistant. Both Robusta and Arabica coffee are grown in the country.

Some in the industry suggest that Timor-Leste’s hybrid will become more popular as climate change affects existing, less hardy strains around the world. However, in an era of genetic patents, it seems unlikely that the country itself will derive much benefit from its contribution to the world.

Coffee accounts for 90 per cent of the country’s non-oil and gas export revenues and has the potential to play a much bigger role in rural development.
**Starbucks involvement**

Coffee giant Starbucks has a huge role to play in Timorense coffee. It bought its first coffee from Cooperativa Café Timor in 1996 and has continued to buy since then. The US firm began blending Timorense coffee with South American beans in 2005 to create an organic blend called Arabian Mocha Timor. The company says that the quality of the beans has improved over the past two decades and launched its single origin East Timor Tatamailau coffee in 2017. Mackenzie Karr of the Starbucks Coffee team said the company’s single origin range is “an opportunity to showcase rare and unique coffees that we wouldn’t be able to otherwise.”

The reliance of farmers on any single multinational corporation is often criticised but initial research into Starbucks role in Timor-Leste is positive. Starbucks decision to launch the Tatamailau single origin coffee has certainly helped to promote Timorense coffee around the world, creating much-needed marketing in the process.

A study into Timor-Leste’s agriculture sector by Sweden’s Research Institute of Industrial Economics in 2012 noted: “So far, exports have predominantly targeted high-quality niches in foreign markets. The decision by Starbucks to sell coffee from Timor-Leste has provided a major boost to the reputation of the product and has opened a large potential market.”

In a statement, the company said: “The move by Starbucks to sell ‘single origin’ coffee sourced from Timor-Leste in supermarkets is expected to help alleviate deforestation and contribute to growing the country’s economy.”

A study by the United Nations Development Programme in 2013 highlighted the growing problem of deforestation in the country. There is little doubt that the economic development generated by Starbucks’ involvement should boost rural development, particularly as the cooperative that supplies the company includes about 22,000 farmers.

As part of its engagement with farmers in developing countries, Starbucks has worked alongside Conservation International to develop its Coffee And Farmer Equity standards covering the entire production chain to ensure that farmers and processors are paid a fair price and that the coffee is grown in an environment sustainably. It has also provided fixed and mobile clinics to improve the health of coffee farmers and their families in Timor-Leste.

**Rural development**

Despite coffee’s position as the dominant export crop, it generates only about US$12 million a year in income, so there is clearly room for expansion in the six municipal districts, out of 13 total, in which it is cultivated. Along with tourism, the sector has been targeted as a great source of job creation, as almost every stage of the process is very labour intensive, from planting and harvesting to drying, processing, and packaging.

With such a dominant single crop, promoting coffee production is one of the best methods of tackling rural poverty, including high child mortality rates and malnutrition. Many farmers are unable to save enough money to last for a full year following the May–October harvest season. The World Bank estimates that a 1 per cent increase in agricultural yields reduces poverty by 0.5 per cent in East and South Asia.

The Asian Development Bank (ADB) has sought to support the sector’s development, including through the award of a US$225,000 grant from its Technical Assistance Special Fund to finance quality and quantity increases in the coffee produced by smallholder farmers in 2017 and 2018. The ADB is also funding ongoing trials into the cultivation of new varieties of coffee and the production of a comprehensive coffee sector development plan, which is being completed with the support of the private sector. The plan is to focus on the rehabilitation of existing coffee farms.

Coffee industry consultant Andrew Hetzel was appointed by the ADB in 2016 to assess the sector in Timor-Leste. One of the main recommendations of his report was the creation of a new organisation bringing together those working in the sector. According to the ADB, Hetzel theorised that communication among its disconnected and sometimes adversarial stakeholders could lead to new cooperation, and the creation of a democratic forum promoting advancement of the industry.

The Timor-Leste Coffee Association, or Assosiasaun Café Timor Leste (ACTL), was duly set up in 2017, with the support of the ADB, and includes members from all parts of the sector, including farmers, distributors, donor agencies, and government. The association now...
has its own headquarters and cupping lab in Dili.

The ACTL set up Festival Kafe Timor in November 2016 and the Timor Coffee Festival one year later. Both events were used to promote national pride generally as well as Timorese coffee specifically. The latter event was backed by the Ministry of Agriculture and Fisheries and attracted coffee experts from other countries, including the US and Australia, as both buyers and speakers at the event. A national coffee quality competition was held and international buyers undertook trips to smallholder communities where farmers were unable to travel to Dili.

David Freedman, the country economist from the ADB’s Timor-Leste Resident Mission, said: “Coffee is grown by almost one-third of all Timorese households and has been the country’s largest non-oil export for the past 150 years. Coffee has the potential to play an important role in the future development of Timor-Leste, providing certain weaknesses in coffee production are addressed.” Starbucks estimates that 46 per cent of households in rural Timor-Leste rely solely on coffee cultivation to generate income.

The future

More trees are being planted and production should increase steadily over the next few years. One of the big questions facing the sector is how intensively to farm coffee. World Bank research suggests that productivity could increase by more than 50 per cent with even basic investment, while using more modern inputs could boost this figure still further. However, one of Timor-Leste’s main selling points is the fact that chemical pesticides and fertilisers have never been used in most areas and it should be possible for farmers to secure organic accreditation.

The sector has benefitted from investment in more general infrastructure, including in the road sector. For instance, the European Union agreed to provide a US$22.62 million grant to finance the rehabilitation of 44 km of road in Ermera and Liquica municipalities. The work, which is scheduled for completion by the end of 2019, is being undertaken by China’s Shanghai Construction Group Company Ltd and is designed to ease the transportation of coffee to markets. Many other roads still need upgrading.

It is vital that the government and the country as a whole do not see coffee as a panacea for all the problems of rural development. At present, the main staple crops are maize and rice but yields are roughly half as high as in neighbouring Indonesia. An ideal combination would be coffee cultivation and higher yielding staple crops.

NGOs are working with farmers to identify the best subsistence crops for the country’s climate, topography, and soils. Farmers already produce cocoa, mango, breadfruit, pepper, cloves and vanilla, while there has been some success in promoting the cultivation of soya beans, which would provide a big boost to agriculture in general because legumes increase soil fertility.
Lisbon’s most iconic square, Praça do Comércio, was “taken over” by Macao for four nights, 12–16 March. Inspired by the legend of goddess A-Ma, protector of sailors and fishermen, the video mapping show ‘Macau: A Legendary Journey’ filled the walls of the square’s buildings, which house some of Portugal’s most important Ministries.

The video mapping was a centerpiece for Macao’s participation, as Guest Foreign Destination, in this year’s edition of Portugal’s main tourism fair, Bolsa de Turismo de Lisboa (BTL). It was also a way to highlight and celebrate 20 years of the establishment of the MSAR and the 40 years of diplomatic relations between China and Portugal. Mak Mak, Macao’s new tourism mascot also welcomed children at the stand.

According to Secretary for Social Affairs and Culture Alexis Tam Chon Weng, this year’s presence has a very specific goal: to significantly increase the number of Portuguese tourists in Macao from the current number of 15,000 per year, a small fraction of the city’s 35.8 million tourists.