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**MEDIA, COMMUNICATIONS AND INFORMATION TECHNOLOGY**



## **Media, Communications and Information Technology**

Macao enjoys freedom of the press, freedom of speech and freedom of publishing. Despite being relatively small, it has a sophisticated and well-developed media industry.

The Government strives to enhance the transparency of its administration and facilitate communication and dialogue with the media. This enables government messages to be delivered to the public promptly and accurately, and provides a wide range of information via the media. Furthermore, the Government expects the media to act as a watchdog, continually prompting every government department to improve its work and provide better-quality services to the community.

Macao's laws protect the rights of journalists to gather and receive news and information, and to report it, ensuring their journalistic independence.

### **Mass Media**

#### **Electronic Media**

Macao has one free-to-air TV station, two radio stations and one cable TV station, as well as three locally based satellite TV stations.

Teledifusao de Macau (Macao Broadcasting Company, TDM) began providing a public broadcasting service in February 1988. Digital broadcasting commenced in 2008. Currently, both analogue broadcasting and digital broadcasting are available. The 12 digital channels include the two round-the-clock channels (Chinese and Portuguese), sports, information, high definition (HD), CCTV-13, CCTV news, CCTV documentaries, Fujian TV Station Haixia Satellite Channel and Hunan TV World.

Radio Macau, a subsidiary of TDM, and the privately owned Radio Vila-Verde (Green Village) are Macao's two radio stations. Both broadcast 24 hours a day.

Macao Cable TV has been broadcasting since July 2000, and offers 96 channels (including 16 test channels, and one dedicated hotel channel); each is aired 24 hours per day.

MSTV Satellite TV Company Limited – originally known as the Cosmos Satellite Television Company, which was the first operator to be granted a licence to provide satellite television services in Macao – now offers the MSTV's News Channel, broadcasting 24 hours a day.

The Chinese channel of the MASTV Company began operations in June 2001. It broadcasts 24 hours a day.

On 2 December 2008, Macao Lotus Satellite TV Media Limited was granted a 15-year licence to provide satellite television services in Macao. It started its broadcasting service on 1 January 2009, on its Macao Lotus TV 24-hour channel.

### **Print Media**

The history of Macao's newspaper industry can be traced back over 100 years. From 1839 to 1840, while enforcing the opium ban in Guangdong, Lin Zexu commissioned a selective translation of

the *English Macao Monthly* and, for administrative purposes, published *Journal News of Macao* in Guangzhou. On 18 July 1893, Dr Sun Yat Sen and a Macanese named Francisco H. Fernandes worked together and founded *Echo Macanese*, which was published in Chinese and Portuguese. On 22 February 1897, Kang Youwei and Liang Qichao founded *The Reformer China*. After the 1911 Revolution in China, Macao's Chinese newspapers began to flourish. Several newspapers, such as *Ao Men Shi Bao* (Macao Times), *Hao Jing Wan Bao* (Oyster Mirror Evening Post), *Ao Men Tong Bao* (Macao Bulletin), and *Hao Jing Ri Bao* (Oyster Mirror Daily), were founded at this time.

Macao has 13 Chinese daily newspapers, which currently print a total of 100,000 copies each day. They are *Ou Mun Iat Pou* (Macao Daily News), *Jornal Va Kio* (Overseas Chinese Journal), *Tai Chung Pou* (The Public), *Si Man Pou* (The Citizen), *Jornal Seng Pou* (Star Journal), *Cheng Pou* (Righteousness), *Today Macau Journal*, *Jornal San Wa Ou* (New Chinese Macau Journal), *Hou Kong Daily*, *Macao Evening*, *Macao Times*, *Exmoo News* and *Macao Today*.

The main Chinese weeklies published in Macao are: *Jornal Informacao* (Information Journal), *Pulso de Macau* (Macau Pulse), *Semanario Recreativo de Macau* (Macau Entertainment Weekly), *Semanario Desportivo de Macau* (Macau Sports Weekly), *Observatorio de Macau* (Macau Observer), *Macao Chinese Journal*, *Macao Commercial Post* and *the Macau Convention and Exhibition Economy Journal*.

Portuguese daily newspapers have an even longer history than the Chinese dailies. In 1822, *Abelha da China*, the first-ever daily in China, was founded and published in Portuguese. Other early-founded Portuguese papers founded in Macao include *Gazeta de Macau* (Macau Gazette), *Imparcial* (The Impartial), and *Correio de Macau* (Macau Post). Macao currently has three Portuguese dailies primarily intended for a local Portuguese readership. These are *Ponto Final* (Full Stop), *Jornal Tribuna de Macau* (Macau Tribune Journal) and *Hoje Macau* (Today Macau). *O Clarim* (The Bugle) and *Plataforma Macau* (Macau Platform) are weeklies, published bilingually in Chinese and Portuguese.

The English daily newspapers in Macao are the *Macau Post Daily*, the *Macao Daily Times* and the *Macau Business Daily*.

Every day, dozens of Hong Kong newspaper and magazine titles are transported to Macao. Some daily newspapers and magazines published in mainland China are also available on local newsstands. In addition, Macao residents enjoy access to radio and TV programmes made in Hong Kong and mainland China.

## Media Stationed in Macao

Macao does not have its own news agency. However, both Xinhua News Agency and Lusa-Portuguese News Agency have branches or representative offices in Macao. People's Daily and China News Service (CNS) have branches in Macao. Other media organisations with accredited correspondents in the territory include China Central Television (CCTV); China National Radio (CNR); China Radio International (CRI); the State Administration of Radio, Film and Television; Wen Hui Bao (Shanghai); Hong Kong Economic Journal (HKEJ); EyePress News; Radio Television Hong Kong (RTHK); and Wen Wei Po.

## **Press Associations**

The press associations in Macao include the Macao Chinese Media Workers Association, the Macao Journalists Club, the Macao Journalists Association, the Macao Media Club, the Macao Sports Press Association, and the Portuguese and English Speaking Media Association.

## **The Press Law**

The Press Law (Law No. 7/90/M), promulgated in August 1990, guarantees the freedom of the press and its right of access to information; and governs activities regarding newspapers and magazines, publishers and news agencies.

Macao's Press Law consists of seven chapters and 61 articles. This law protects the rights of journalists, including those to gather, receive and report information. By law, journalists have the right to access information from government authorities, public administrations, public corporations and joint ventures formed by the Government; private organisations of which the Government or its subsidiaries are major shareholders; corporations that operate public assets; and contractors that provide public works or services. This freedom of access is not applicable to information regarding judicial confidentiality and state secrets, or facts and documentation protected by law as private and confidential information.

Journalists have the right to protect their sources of information and they will not be penalised directly or indirectly while exercising that right. Likewise, there is no obligation for media owners and publishers, individual publications or news agencies to reveal their sources of information. In this way, the law protects journalistic independence. However, in the event of sufficient evidence of criminal involvement, the media's right to protect its sources of information can be terminated by a court order.

The Press Law allows freedom of discussion and criticism of politics, society, religious views and laws, as well as the acts of the Government itself and its departments and personnel.

Publishers or other entities publishing periodicals, and correspondents of non-local media organisations based in Macao, are legally required to register with the Government Information Bureau (GCS).

In 2010, the Government proposed to review and revise the Press Law and the Audio-Visual Broadcasting Law. The Government Information Bureau (GCS) began to prepare for the revision. Academic institutions were appointed to conduct a study on the direction for amendments to the two laws and an opinion poll at the end of 2010 and in 2011, to realise the objectivity and neutrality of the revision process. The GCS also gave the media regular reports on progress with the work, to inform the public; and communicated with the industry through various channels to collect opinions and suggestions about the revision.

Since the Broadcasting Law encompasses many regulations on technical aspects of broadcasting, and there is a need to align with the telecommunications legislation, the Government deferred any amendment to the Broadcasting Law while proceeding to amend the Press Law under the principle of any clause being "limited to deletion only", after gathering and analysing the views of the

media industry and the results of the opinion gathering. The controversial provisions to be deleted included one concerning the Press Council, and another on the Code of Practice for Journalists. Some wording would also be amended, to align with relevant laws.

The Government Information Bureau drafted consultation documents in alignment with the above-mentioned direction for amendment, and conducted a public consultation on the revised draft of the amendment to the Press Law in 2013. The final report on the public consultation on the amendment was announced on 17 April 2014, after consolidating views gathered in six industry and public consultation sessions, as well as written opinions collected via various channels, such as online sources, fax, email and post. In June 2014, after the revised draft of the Press Law and the relevant administrative documents were completed, and submitted to the Chief Executive, they were referred to the administration and justice system for follow-up, and technically analysed and verified by the relevant authorities. The GCS will follow establish procedures in continuing to communicate with the legal departments and follow up the relevant work.

## Government Information Bureau

The Government Information Bureau (GCS) is a bureau-level administrative entity under the supervision of the Chief Executive. It assists government departments and the media by coordinating and conducting research regarding public communication, disseminating government information and arranging media interviews. The GCS regularly publishes *Macao Magazine*, the *Macao Information* booklet and the *Macao Yearbook* in Chinese, Portuguese and English; and is gradually increasing the release of new information through new media and mobile networks.

In line with the development of civil society and information technology in mass media, in March 2012 the Government promulgated the by-law, Organisation and Operation of the Government Information Bureau (GCS), to enhance the transparency of administration, facilitate communication with citizens and media, and further safeguard the public interest and the right to information.

Under the new framework, the GCS was restructured from one department with three divisions and one team to two departments with five divisions: the Information Department – under which is the Media Relations Division; the Research and Publicity Department – under which are the Publicity and Promotion Division and the Publication Division; the IT and Archive Division; and the Administration and Finance Division.

In recent years, the GCS utilises the mobile network to offer different kinds of information to the media and the general public. In addition to Macao news applications that distribute the latest government news, the GCS has launched a WeChat account for subscriptions, a YouTube channel and a Facebook page. *Macao Yearbook* and *Macao Magazine* are published in Chinese, English and Portuguese, and are available through websites and mobile applications allowing readers to browse information.

## Disseminating Government Information

The GCS has also established the Information Broadcast System (IBS) for local media and accredited correspondents. The IBS facilitates media access to official information and photographs by

distributing them via the Internet. This enables the media to remotely access official information at any time.

During 2016, the Information Department wrote and distributed 14,064 press releases in Chinese, Portuguese and English, and distributed 1,874 interview notices and 1,239 photographs on behalf of the Government and its departments.

## Registration of Periodicals

The Administration and Accounting Section of the GCS is responsible for registering newspapers, publishers and periodicals. Under the Media Registration Regulations, if a daily publication is registered but has not been published for 180 days, or if other registered periodicals have not been published for a period of one year or have been suspended for a period of one year, their registration will be cancelled. Registration of publications is free of charge.

Twelve new publications were registered with the GCS in 2016, including publications appearing weekly, fortnightly, monthly, once every two months, and quarterly.

## The Government Portal

The Government portal ([www.gov.mo](http://www.gov.mo)) was officially launched in December 2004. It offers a comprehensive platform for information and e-services provided by all Government departments. The portal gives the public access to information from various public administrative departments, the Legislative Assembly, courts, the Public Prosecutions Office and tertiary education institutions.

Available in both traditional and simplified Chinese, Portuguese and English versions, the Government portal provides general information and updates about Macao to local residents, tourists and the business community. The portal covers government information and announcements, fact sheets about Macao, city information, cultural and recreational activities, e-services, legal advice, and comments and complaints from the public.

The portal's objectives are to announce government policies in a timely manner, enhance communication between the Government and the public, maintain administrative transparency, and collect public opinion.

## Government Printing Bureau

The Government Printing Bureau implements the Government's publishing policy. It is responsible for the publication of the *Macao Special Administrative Region Gazette* (the *Macao SAR Gazette*) and its supplements; the laws and regulations of Macao (in both separate and omnibus formats); the general budget of Macao and related budgets of government departments and public bodies; Macao's accounting records; government policy addresses; legally defined official forms; and any official printed matter that uses the emblem of Macao. It also undertakes the layout, proofreading and printing of printed matter that requires special security measures or close supervision.

## The Macao SAR Gazette

Sections One and Two of the *Macao SAR Gazette* are published at 9:00 am every Monday and Wednesday, respectively; unless either of these days is a public holiday, in which case the pertinent section is published on the next working day. Announcements of urgent or ad-hoc matters that occur outside this schedule may be issued in a supplement or special section.

Publication of all the following items in Section One of the *Macao SAR Gazette* is mandated by law, and they only come into legal effect thereby: laws, by-laws, Legislative Assembly resolutions, administrative orders and orders approved by the Chief Executive, orders approved by principal government officials, international treaties signed in the name of “Macao, China”, Legislative Assembly election results, the appointment of members of the Legislative Assembly, the appointment and termination of appointment of Executive Council members, the appointment and termination of appointment of presidents and judges at all levels of the courts and of public prosecutors, as well as other announcements of appointments and terminations of appointments under the law and documents whose announcement is required by law.

The following announcements must also be made in Section One of the *Macao SAR Gazette*:

1. Amendments to the Basic Law of the MSAR, proposals to amend the Basic Law, and interpretations of the Basic Law by the authorised entity;
2. National laws that apply to the MSAR, and interpretations of those laws by the Standing Committee of the National People’s Congress (NPC);
3. Documents adopted by the NPC and its Standing Committee regarding the MSAR;
4. Regulatory documents adopted by the NPC’s Preparatory Committee for the Macao Special Administrative Region, regarding the establishment and operation of the MSAR;
5. Documents authorised by the NPC and its Standing Committee and the central government; and orders, instructions and documents issued by the central government in accordance with the Basic Law of the MSAR;
6. Documents regarding the appointment and termination of the Chief Executive, principal government officials and the Public Prosecutor-General by the central government; and
7. The Chief Executive’s annual policy address.

The following announcements must be made in Section Two of the *Macao SAR Gazette*:

1. International treaties applicable to the MSAR;
2. Agreements on judicial mutual assistance, and mutual exemption of visa requirements by the MSAR and other countries or regions with the assistance and authorisation of the central government;
3. Judicial mutual assistance agreements signed with judicial authorities in other areas or regions in mainland China;
4. Statements and announcements made by the Legislative Assembly;
5. Statements and announcements made by the Government; and

6. Other documents that are to be announced in this section by law.

Since 2000, the Government Printing Bureau has posted the complete contents of Sections One and Two of the *Macao SAR Gazette* on its website ([www.io.gov.mo](http://www.io.gov.mo)) for public access and information. To strengthen the accuracy and integrity of the electronic version of the *Macao SAR Gazette*, the Government Printing Bureau launched an electronic authentication version of the *Macao SAR Gazette* in November 2015.

By 31 December 2016, the Government Printing Bureau had established an online database containing the full text of 25,000 laws and regulations. This includes all the laws and regulations published since the establishment of the MSAR, as well as laws, decree-laws and other regulations gazetted between 1976 and 19 December 1999 that remain in effect. In 2016, the bureau's official website recorded an average of more than 345,000 hits per month.

## Laws of the Macao Special Administrative Region

Prior to the establishment of the MSAR, the Government Printing Bureau published Macau Laws. Since the establishment of the MSAR, it has published The Macao Special Administrative Region Laws, a semi-annual reference document that provides easy access to major laws, by-laws, resolutions of the Legislative Assembly and administrative orders published in the *Macao SAR Gazette*.

## External Services

The Government Printing Bureau offers external services including subscription of the *Macao SAR Gazette*; sales of government publications and other printed matter. In addition to the *Macao SAR Gazette*, the Government Printing Bureau sells printed books published by the bureau, books published by other governmental departments, government printed materials and CD-ROM of laws. The bureau also publishes announcements and notices of private institutions in the *Macao SAR Gazette*, and provides printing services to private organisations and individuals.

The Government Printing Bureau launched the Macao SAR Electronic Book Store mobile application in November 2013, offering electronic publications published by the Macao SAR, governmental departments and other institutions, and *Macao SAR Gazette*. It also distributes promotional materials, and sells miscellaneous printed materials. The electronic authentication version of the *Macao SAR Gazette* was launched in January 2016, for free subscription by government departments and the public.

## Information Technology

### Science and Technology Committee

The Science and Technology Committee is a consultative body that advises the Government on the formulation of policies to promote technological development and modernisation.

Chaired by the Chief Executive, the Science and Technology Committee was formed with

committee members including the Secretary for Transport and Public Works, the Secretary for Economy and Finance, the Secretary for Social Affairs and Culture, the Chairman of the Executive Committee of Macao Foundation, the Chairman of the Executive Committee of the Science and Technology Development Fund, the Rector of the University of Macau, the Rector of the Macao Polytechnic Institute, the Rector of the Macao University of Science and Technology, the President of the Board of Directors of the Macao Productivity and Technology Transfer Center (CPTTM), and the Director of the United Nations University International Institute for Software Technology, plus 19 other members who have excelled in the fields of science, technology and innovation, and who are appointed by the Chief Executive.

The Chief Executive has also appointed ten internationally renowned experts and scholars as advisors to the council. They are Tsung Dao Lee, Lu Yongxiang, Zhu Lilan, Lu Zhonghe, Hui Yongzheng, Zhu Gaofeng, Charles K. Kao, Li Lianhe, Song Yonghua and Jack Ma.

## Science and Technology Development Fund

The Science and Technology Development Fund was established under By-law No. 14/2004 of the Macao SAR and is supervised by the Chief Executive. In line with Macao's policies on science and technology, the fund subsidises the development of educational programmes, research and other related projects.

Eligible categories for subsidies include science research, popular science, patents, joint projects and special subsidies for purchasing science equipment. In 2016, 76 subsidies were approved.

## Macau New Technologies Incubator Centre

Co-founded by the Government and the private sector, the Macau New Technologies Incubator Centre (Manetic) was established in 2001, marking Macao's first step towards the development of innovative hi-tech industries.

Manetic is an incubator centre for new technology. Its major objective is to help turn business or product ideas into commercial ventures as quickly as possible. Manetic's targets include: to strengthen technological development in Macao and improve career opportunities for the next generation; to effectively utilise Macao's professional resources through cooperation with multinational companies; and to tap international resources through developing Macao as the technological development centre in the Greater China region.

## Telecommunications Services

The objective of Macao's telecommunications policy is to gradually liberalise the regulation of the public telecommunications infrastructure and service provision, in order to maximise public benefits, create investment opportunities and enhance the competitiveness and long-term development of the economy and the community. This policy strives to ensure that quality and efficient telecommunications services are always available to the entire community and businesses at reasonable cost and in a non-discriminatory manner. A further goal is network interconnection and number portability.

## **The Telecommunications Law**

The Telecommunications Law (Law No. 14/2001) was gazetted on 20 August 2001. The construction, management and operation of a telecommunications network, and its service provision, are legally deemed to be matters of public interest, and they can only be undertaken by a public entity or by a private organisation that complies with applicable regulations and demonstrates its business capability. The Government will review the relevant laws and propose amendments to them when appropriate, after taking into account the actual circumstances and development trends of telecommunications services in Macao.

## **Bureau of Telecommunications Regulation**

Under the supervision of the Secretary for Transport and Public Works, the Bureau of Telecommunications Regulation (DSRT) oversees telecommunications and information technology in Macao.

The MSAR Government issued By-law No. 29/2016 Amendment to Regulation of Organisation of Postal Services, to rename Macao Post as the Macao Post and Telecommunications Bureau (CTT) and merge it with DSRT on 19 December 2016.

## **Fixed-network and External Telecommunications Services**

Macao's fixed-network and external telecommunications services are currently operated by Companhia de Telecomunicacoes de Macau (CTM) under a franchise contract. In November 2009, the Government and CTM signed the revised Interim Review on the Franchise Contract on Public Telecommunications Services, which stipulated the full liberalisation of the telecommunications services market in 2012. In December 2011, the Government formulated the Regulations on the Provision and Operation of Fixed Public Telecommunication Networks (By-law No. 41/2011). In June 2013, CTM and MTEL Telecommunication Company Limited were granted licences for the provision and operation of fixed public telecommunication networks, respectively. MTEL Telecommunication Company Limited began providing its services on 3 December 2014.

At the end of 2016, there were 134,072 fixed-network lines in Macao, along with 676 public pay phones offering local call services and IDD access from public locations throughout the Macao peninsula and the two islands. Callers in Macao can currently make IDD calls to 246 countries and regions.

## **Public Mobile and Wireless Communications Services**

The wireless telecommunications market was officially opened up in 2000, advancing the Macao telecommunications and information industry into a new era. In the early 2000s, Companhia de Telecomunicacoes de Macau (CTM), Hutchison Telephone (Macao) Company and SmarTone Mobile Communications (Macao) were awarded eight-year licences to offer public mobile phone services. Kong Seng Paging Ltd. was also granted a virtual mobile operator licence to provide public mobile telecommunication services, despite not having its own public telecommunication

network and frequency.

The Regulation on the Interconnection of Public Telecommunication Networks (By-law No. 41/2004), stipulates the establishment of a level playing field for the interconnection of public telecommunications networks, in order to ensure the implementation of interconnection at an opportune time and at a reasonable cost.

In accordance with regulations, in 2005 the Government issued a licence to China Unicom (Macao), allowing it to establish a CDMA2000 1X network and provide roaming mobile telecommunications services. After one year of operation, the company successfully applied to the Government for a licence to provide local services.

At the beginning of 2006, China Unicom (Macao), Hutchison Telephone (Macao), Comphania de Telecomunicacoes de Macau (CTM) and SmarTone Mobile Communications (Macao) were granted licences to provide public networks for terrestrial third-generation (3G) mobile telecommunications and roaming 3G mobile telecommunications services. In December 2014, the four operators' licences to provide public networks for terrestrial mobile telecommunications services were extended to 4 June 2023.

In September 2014, the Government initiated an open tender for granting licences for the operation of public networks for terrestrial Long-Term Evolution (also known as 4G) mobile telecommunications and the provision of relevant public mobile telecommunication services. After a comprehensive review of the tenders, the Government has taken into consideration whether the bidders' plans can foster development of the telecommunications industry in Macao, as well as deliver long-term economic and social benefits. The Government has decided to issue the licences to Macao Telecommunications Ltd., China Telecom (Macao) Limited, SmarTone Mobile Communications (Macao) Limited and Hutchison Telephone (Macao) Company Limited. In the second half of 2015, these four operators all introduced mobile communication services with more advanced technology.

In March 2015, the Government renewed the virtual mobile network operator licence of Kong Seng Paging Ltd, Macau to 4 June 2023.

As at the end of 2016, the five mobile telecommunication providers had 1,969,972 registered users, and per capita cell phone ownership was 304.15 percent.

### Mobile Communication Service Information

Year	No. of radio paging users	No. of mobile phone users	No. of rechargeable mobile phone cards
2003	3,453	198,696	165,335
2004	2,728	228,296	204,154
2005	2,513	259,336	273,422
2006	1,891	301,512	334,835

(Cont.)

<b>Mobile Communication Service Information</b>			
<b>Year</b>	<b>No. of radio paging users</b>	<b>No. of mobile phone users</b>	<b>No. of rechargeable mobile phone cards</b>
2007	2,782	356,117	438,206
2008	2,780	395,943	536,653
2009	3,097	420,098	617,282
2010	3,204	459,330	662,931
2011	3,101	525,209	827,985
2012	1,886	564,576	1,048,881
2013	1,278	597,012	1,125,233
2014	865	638,725	1,217,728
2015	722	677,018	1,219,079
2016	701	700,609	1,269,363

## Internet and Broadband Services

Macao's internet-enabled population continued to increase at a stable pace. At the end of 2016, there were 178,092 internet subscribers. In accordance with the regulations of By-law No. 24/2002, in November 2002 internet service providers (ISPs) were formally included in the licensing mechanism. To date, 21 companies have been granted ISP licences.

CTM began offering internet broadband services in July 2000, and MTEL began offering internet broadband services in December 2014. By the end of 2016, there were 177,959 registered broadband subscribers, 4.8 percent more than a year earlier. Of these subscribers, 159,413 were residential broadband services subscribers, representing approximately 82.7 percent of all households<sup>1</sup>.

Moreover, the urban wireless broadband network project financed by the Government, commenced in 2009, and began providing services to residents and tourists in September 2010. By the end of 2016, there were 201 WiFi Go service spots, and approximately 36 million successful connections had been recorded.

## Television Services

To ensure citizens' access to basic television channels, the Government categorises television

services into free and pay services. In April 2014, the Government, Teledifusao de Macau (Macao Broadcasting Company, TDM) and the Post Office co-established the Macau Basic Television Channels Limited. In cooperation with the existing terrestrial broadcasting service providers, the company connects the underground transmission network with the networks of these providers, thereby providing support services enabling the public to receive basic television channels, as a supplementary means for people in Macao to receive free television signals. These supporting services for the public were renewed for two years starting from 1 April 2016.

Regarding terrestrial pay television services, with the policy objective to liberalise the market for television services, on 22 April 2014 the Government endorsed the renewal of the non-franchised contract for Macau Cable TV, thereby creating the conditions for a fully liberalised market for pay television services.

In addition, the Government issued a new executive order in July 2014, exempting satellite television receivers with diameters of less than three meters from approval by the Government, provided that the receivers are used to receive signals of television programmes for private use. This encourages adoption of diversified modes of reception of television services, by allowing the public to have easy access to television programmes via satellite television signals.

## **Registration and Management of Internet Domain Names**

The University of Macau's previous appointment to manage and register the top-level domain ".mo" for the Macao SAR ended in 2010. Consequently, in March 2011, the Government launched the Macao Network Information Centre and awarded a service contract to HNET Asia Ltd to administer and operate Macao domain names.

In 2014, the DSRT liaised with the Macao Network Information Centre to introduce services for Chinese and Portuguese domain names for the Internet country code ".mo", electronic payment, optimisation of the application procedures and amendment of domain names, to provide more diverse, better quality domain name services. In 2015, the DSRT introduced IPv6 domain name services, furthering advancing the development of domain name services in Macao.

## **IPv6 Network Research Laboratory**

To introduce IPv6 and its related setup techniques to the industry and personnel in the relevant fields, and to assure the industry of the application of IPv6, the DSRT worked with the Macau Polytechnic Institute in setting up the IPv6 Network Research Laboratory. This aimed to demonstrate the application and connection of IPv6, and to conduct related research and development. The laboratory commenced operations on 16 April 2013.

## **Development of Terrestrial Digital Broadcasting**

Following the global trend of terrestrial digital broadcasting, the number of terrestrial digital broadcasting channels provided by Teledifusao de Macau (Macao Broadcasting Company, TDM) increased to 11. To ensure the availability of quality products that meet residents' needs, and to

enable residents to enjoy the programmes aired on Macao's terrestrial digital broadcasting channels, the Bureau of Telecommunications Regulation built the Digital Terrestrial Television Research and Testing Centre, which commenced operation on 20 September 2010, in partnership with Macao Polytechnic Institute. Following the centre commencing operations, certain integrated television sets and decoders have been tested, and the reports have been completed.

## **Radio Frequency Allocation and Coordination with Neighbouring Regions**

After signing the Mainland China and Macao Frequency Coordination Agreement for Terrestrial, Mobile/Fixed Broadcasting (Audio and Television) in 2002, mainland China and Macao have maintained strong links in the development of wireless communication services.

In December 2013, the DSRT, the Guangdong Radio Administrative Office and the related departments held a conference on the coordination of radio frequencies between mainland China and Macao, during which the two sides held discussions on testing cross-border signal coverage of public mobile communication networks, the arrangements for coordination of the 3G frequency spectrum, and the development of 4G services.

In conjunction with mobile network operators in Zhuhai and Macao, the DRST and the radio authority of Zhuhai regularly tests for cross-boundary overspill of signals, and requests operators to introduce improvement measures according to the test results, to reduce the problem of signal overspill.

## **Mutual Recognition of Electronic Signature Certificates in Macao and Guangdong**

On 15 December 2016, the Department of Information Technology and Software Services of the Ministry of Industry and Information Technology, the Economic and Information Commission of Guangdong Province, the Macao Post Office and the Bureau of Telecommunications Regulation held the Third Meeting of the Working Group of the Pilot Scheme for Mutual Recognition of Electronic Signature Certificate Issued by Guangdong and Macao, in Macao. During the meeting, a new working group was formed, and the Mechanism of the Working Group of the Pilot Scheme for Mutual Recognition of Electronic Signature Certificate Issued by Guangdong and Macao and the List of Members of the Working Group of the Pilot Scheme for Mutual Recognition of Electronic Signature Certificate Issued by Guangdong and Macao were discussed and approved.

## **Authentication of Electronic Documents and Digital Signatures**

Law No. 5/2005, which was passed by the Legislative Assembly in August 2005, forms the key legal basis for regulating and authenticating electronic documents and digital signatures. This law is essential for the long-term development of e-government and e-commerce. Executive Order No. 376/2005 designated the Bureau of Telecommunications Regulation (DSRT) as the authority responsible for authenticating electronic documents and signatures. According to By-law No. 29/2016, the Macao Post and Telecommunications Bureau became the authority responsible for

authenticating electronic documents and signatures, starting from 1 January 2017.

## **Signing of Protocol on Technology Cooperation between Macao and Portugal**

On 28 November 2014, the DSRT and the National Authority of Communications of Portugal (ANACOM) signed a three-year protocol on technology cooperation, to promote the robust development of telecommunications industries in the two places. The major forms of cooperation are exchanges of information and literature, exchange visits for technology delegations, internships and training activities. Regular meetings are also held every year.

## **Postal Services**

Since its foundation on 1 March 1884, the Macao Post Office has operated as a provider of postal services, complying with international conventions. On the same day, the first Macao stamp, titled “Crown”, entered into circulation. In fact, Macao Post’s history dates back a century earlier, to 1798, when sea mail services began.

Macao Post operates in accordance with international conventions. Many new services have been introduced since the establishment of Macao Post. Alongside traditional postal services and Macao Postal Savings, established in 1917, Macao Post took over the operation of telephone services in 1927. Then, as society developed, these services were conceded to other entities or public sector bodies. In 1981, the Companhia de Telecomunicacoes de Macau (CTM) took over the operation of telecommunications. In 2000, the Post Office’s role as the supervisory body for telecommunications services was transferred to the DSRT.

## **The Post Office**

To respond to rapid technological developments, the Post Office is committed to providing modern, diverse services. In 2006, the Post Office introduced Electronic Certification Services (eSignTrust), becoming the only certification service provider accredited by the Government. In the same year, the Communications Museum of Macao was inaugurated, focused on postal services and telecommunications. The museum seeks to primarily serve young people, to satisfy their thirst for knowledge.

To promote the development of Secure Electronic Postal Services, the Post Office introduced the Electronic Postal Certification Mark Service in 2009, and launched the Secure Electronic Postal Box and the Postal Registered Electronic Mail Services in 2013. In 2016, the volume of local mail was one percent higher than that in 2015, mainly due to the increase in the numbers of letters delivered by the Government.

Regarding international mail, compared to 2015, in 2016 the volumes of outbound surface mail and outbound airmail decreased by eight percent and ten percent, respectively, while the volumes of inbound surface mail and inbound airmail decreased by nine percent and ten percent, respectively. The main destinations of mail were Hong Kong, mainland China, Portugal, the United States,

Taiwan, the United Kingdom, Singapore, Canada, Australia and German. The main sources of mail were Hong Kong, mainland China, the United Kingdom, Taiwan, Portugal, the United States, Singapore, Sweden, Japan and Belgium.

Regarding registered mail, in 2016 the volume of local mail was six percent higher than in 2015, mainly due to an increase in the numbers of notices delivered by the Government departments and organisations. The volumes of outbound international surface mail and international airmail increased by six percent and four percent, respectively. The volumes of inbound international surface mail and international airmail dropped by three percent and ten percent, respectively.

Regarding Express Mail Service (EMS), in comparison with 2015, Macao Post recorded a 1.38 percent increase in the number of outbound EMS items and a 1.48 percent decrease in inbound EMS items. The chief sources and destinations of EMS items were mainland China, Hong Kong, the United States, Taiwan, Korea, Japan and Portugal.

To improve the quality and efficiency of services, in the fourth quarter of 2016 the Post Office fully applied the Personal Digital Assistant computer system, which assists deliveries. This helps to renew information on delivery of inbound mail in real time, coupled with more efficient monitoring of mail deliveries. In addition, to facilitate collection of postal objects and express mail at designated post offices, the Post Office introduced the first “e-locker” service for 24-hour collection in Central Post Office in December 2015. To facilitate collection outside office hours, in 2016 the Post Office introduced “e-locker” services at Nova Taipa Post Office, University of Macau Post Office and Ocean Garden Post Office.

## **Secure Electronic Postal Services**

To promote development strategies for cooperation, the Post Office is considering cooperation with various organisations in electronic deliveries, such as launching Postal Registered Electronic Mail, Postal Electronic Mail, eDirect Mail and e-bill services using Secure Electronic Postal Box (SEPBox).

In addition, to increase methods for registering for SEPBox, “eLockers” with SEPBox registration functions are available at the Central Post Office, Ocean Garden Post Office, Nova Taipa Post Office and the University of Macau Post Office. To further enhance the effectiveness of the cooperation in SEPBox registration between the Post Office and Identification Bureau, the Identification Bureau’s self-service machines also include the SEPBox registration process, allowing the public to register for SEPBox.

## **Philately**

The 2016 Stamp Issue Programme included commemorative stamps with the theme “The 150th Anniversary of the Birth of Dr. Sun Yat-sen” jointly issued by China Post, Hongkong Post and Macao Post, and stamp booklets containing nine stamps on the theme “Mountains and Rivers of the Motherland – Yangtze River”, which followed the “Yellow River” series in 2015. “Lunar New Year of Monkey” presentation packs and “Literature and its Characters – The Outlaws of the Marsh” thematic packs were also issued. Postcards issued included “St. Dominic’s Church” postage

paid postcards and “Cultural Heritage of Macao – Another Sight” postcards. Other philatelic gifts included a “Lunar New Year of Monkey” teapot gift set and Science and Technology – Magic Squares philatelic book, further enriching the collections of stamp collectors.

Macao Post provides different channels for overseas collectors to purchase philatelic products. In 2016, the Philatelic Online Subscription services were further expanded. In addition to the annual subscription service, services for ordering new philatelic products and a dealer’s annual subscription service were introduced. Collectors can enter the website [www.macaupost.gov.mo/philately/Default.aspx](http://www.macaupost.gov.mo/philately/Default.aspx) to enjoy these services.

## Caixa Economica Postal

Caixa Economica Postal (Postal Savings Office or CEP) is a credit institution operated by the Macao Post Office that serves as the Post Office’s cashier. It also provides a wide range of bank related services, such as credit facilities, remittance services, electronic payments and exchange services for the public.

In terms of credit facilities, CEP chiefly provides civil servants and employees of public services and private companies who sign an employee credit service agreement with guaranteed short-term credit. In 2016, CEP approved loans worth nearly 225 million patacas.

CEP and Western Union also jointly provide an express money transfer service. Using its advanced IT, global computerised money transfer system and counter network, customers can transfer money safely to over 200 countries and regions within a few minutes. There were over 32,000 transactions in 2016. There are currently 10 outlets for this service, at CEP, Airport Post Office, Ferry Terminal Post Office, eSignTrust Registration Authority, the Communications Museum Shop, the Almirante Lacerda Post Office, the Ocean Garden Post Office, the Coloane Post Office, the Seac Pai Van Post Office and the UM Post Office.

CEP’s electronic payment platform provides an online payment service for the public. The public can also apply for or settle payments of various government services via this platform in real time. In 2016, nearly 240,000 payment transactions were settled.

Furthermore, CEP provides foreign currency exchange services of 16 currencies, including Hong Kong Dollar, US Dollar, Renminbi, Euro and Japanese Yen.

## eSignTrust

As the only authentication entity approved by the Government, eSignTrust has been issuing electronic signature certificates to citizens, corporations and government departments and providing them with online identity authentication services, strengthening the authentication quality of electronic documents since it commenced operation in 2006. In accordance with Law No. 5/2005 Electronic Documents and Digital Signatures, an electronic document signed with electronic certification is legally binding.

In 2016, the electronic certification information infrastructure system software and the certificate management system were updated and upgraded, and the key for the third generation certificate of

the electronic authentication entity was generated. These measures enhanced the security features of the electronic certificate, protecting the user's authentication and strengthening the electronic signature security technology, in accordance with internationally recognised information security standards.

eSignTrust supports the electronic certification services plans of public and private entities. In 2016, complying with the e-governance policy, it actively assisted public departments with using electronic certification technology, and integrating the application of the electronic workflow systems of various government departments. The system provides an electronic signature function on mobile devices, better leveraging the mobile electronic approval function and increasing efficiency.

*Note: According to the results of the 2015 population census announced by the Statistics and Census Service, the number of households at year-end of 2015 was 192,700 (excluding collective households in hotel and hostel services).*



MACAU, CHINA

# 中國澳門

鏡海歸帆圖

MACAU: VOLTA ÀS RAÍZES COMUNS  
MACAO: BACK TO COMMON ROOTS



首日蓋印

Obliterações do 1.º dia em:

First Day obliterations in:



澳門郵政  
CORREIOS DE MACAU

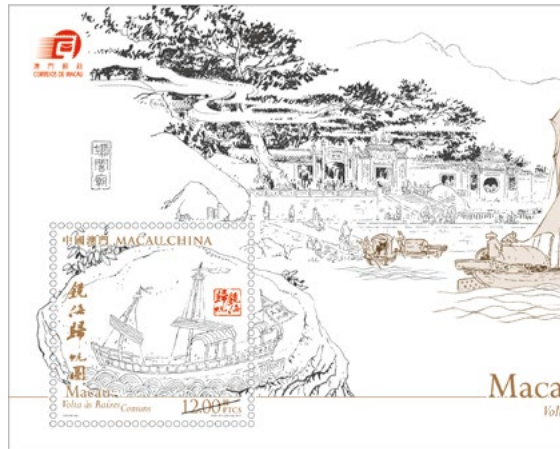
**Macao: Back to Common Roots**



鏡海歸帆圖



Macau: Volta às Raízes Comuns



Macao was known as “Keng Hoi” (Mirror Sea) in ancient time, a place where the Chinese nation lives generations after generations. It is located in the southeast of China, leaning against South China Sea to the south. After the mid 16 century, it was gradually occupied by Portugal; the Government of the People’s Republic of China resumed the exercise of sovereignty over Macao on December 20th, 1999.

“Macao: Back to Common Roots” illustrates in image form about the rich Chinese and Western culture with long history that meet at Macao, and affect each other creatively. The people come together and dedicate themselves in promoting the political, economic and cultural development of Macao; the joy of returning to the motherland and the new appearance of the special administrative region, etc. Lok Hei is the first person to create this kind of drawing in Macao’s art history.

The “Macao: Back to Common Roots”, created by Lok Hei in the format of Chinese traditional scroll painting depicting officials of different hierarchies, missionaries of different religions, and people’s appearance from different seas and lands; as well as buildings and ships in various styles, and the outlook of the city in different periods in Macao, a place where East and West meet since the Ming dynasty until present. In addition, the 100 meter long fiber pen drawing links closely together the outstanding and representable events and elements, covering history, economy, religion, custom, education, literature, drama, news, publication, board casting, movie and TV, art, music, dancing, architecture and association, which took 8 months to complete.

As an iconic architecture of Macao, the A Ma Temple and the Ruins of St. Paul’s are the most prominent in the scroll

painting. Although the ‘Yang Chuan Shi’ (Stone of Western Ship) of the former one and the stone carving ‘Angel’ of the latter one represent different believes and religions of different nations, they have the same pursuit of a brilliant lifestyle. Also, the ‘Firecrackers Making’ and ‘Woven Rattans’, etc., display the living scenario. While the ‘Feast of Na-Tcha and Parade’ that goes through the main streets and small alleys in the city, or the Portuguese folk dances that people sing along



the journey, they also reveal the local customs of the small city.

The artwork used lines to form the shape of the main body. The sequence and combination of thickness, curvature, angle, direction and distance, etc. are rich in variation. Through the changing movements of the pen, it expressed the trend, rhythm, interweaves, volume and sense of strength, etc. The style of the drawing is realistic, and the scenarios are interrelated. The drawing technique is not limited to one type, which is refreshing and innovative. The introduction of Montage approach and modern designing concept have created more sense of layers to the picture. While it is filled with historical affection, it also goes with the attitude and behavior of acceptance towards aesthetic which is currently popular, namely, the aesthetics trend.

The “Macao: Back to Common Roots” is based on Lok Hei’s pure sentiment as an artist who was born and grew up locally, it recreates the historical scenario of Macao evolving from a small fishing village to become urbanized, modernized and globalized, exhibiting the unique spirit and cultural features of Macao, with epochal significance.

Information sources: Macao Post and Telecommunications Bureau