



Australian Government



Australian
Communications
and Media Authority

researchacma
Evidence
that informs

Communications report 2014–15



communicating | **facilitating** | **regulating**

Australian
Communications
and Media Authority

Communications report
2014–15

The ACMA *Communications report 2014–15* (the Communications report) draws on data from a range of sources including the ACMA's own databases, information reported by industry, the ACMA's research using third-party public sources, and commissioned surveys and analysis.

The ACMA has a statutory reporting obligation under section 105 of the *Telecommunications Act 1997* that requires it to collect data from industry for monitoring and reporting purposes. However, as part of the Australian Government's regulation reform agenda, the ACMA will continue to work with industry participants to identify opportunities to streamline regulatory reporting arrangements.

Disclaimer

The information in this document was obtained from sources the ACMA believes to be reliable. However, the ACMA does not guarantee the accuracy, completeness or adequacy of the information. To the maximum extent permitted by law, the ACMA is not liable for any errors, omissions or inadequacy in the information, or for any reliance on the information. Predictions and forward-looking statements in this document are based on information existing and known at the time of publication, and are subject to risks, uncertainties and changes in circumstances beyond the control of the ACMA. Opinions and positions stated in this document are subject to change without notice.

Comments

The ACMA welcomes feedback on the communications report. Comments and enquiries about the scope, content and format of the report should be sent to research.analysis@acma.gov.au.

Further information

For further information about the ACMA and links to the Communications report, please go to www.acma.gov.au/commsreport.

Copyright notice



<http://creativecommons.org/licenses/by/3.0/au/>

With the exception of coats of arms, logos, emblems, images, other third-party material or devices protected by a trademark, this content is licensed under the Creative Commons Australia Attribution 3.0 Licence.

We request attribution as: © Commonwealth of Australia (Australian Communications and Media Authority) 2015.

All other rights are reserved.

The Australian Communications and Media Authority has undertaken reasonable enquiries to identify material owned by third parties and secure permission for its reproduction. Permission may need to be obtained from third parties to re-use their material.

Written enquiries may be sent to:

Manager, Editorial and Design
PO Box 13112
Law Courts
Melbourne VIC 8010
Email: candinfo@acma.gov.au



Australian
Communications
and Media Authority

Level 5
The Bay Centre
15 Pirrama Road
Pyrmont NSW 2009

PO Box 0590
Queen Victoria Building
NSW 1330

T +61 2 9334 7900
F +61 2 9334 7111

www.acma.gov.au

Chairman

9 November 2015

Senator the Hon Mitch Fifield
Minister for Communications and the Arts
Parliament House
Canberra ACT 2600

Dear Minister

ACMA Communications report 2014–15

I am pleased to provide you with the *ACMA Communications report 2014–15* (the report).

It is a report on telecommunications performance for 2014–15, prepared in accordance with section 105 of the *Telecommunications Act 1997* (the Act).

The statutory reporting obligations under the section 105 of the Act are fulfilled in the following chapters of the report:

- > For paragraphs 105(3)(a) and (b) of the Act, which relate to the efficiency of the supply of telecommunications services and the adequacy and quality of such services—Chapters 1, 2, 3 and 5 of the report.
- > For paragraphs 105(3)(c) and (d), which relate to carrier and carriage service provider obligations under Part 6 of the Act with respect to industry codes and standards—Chapter 5 of the report.
- > For paragraphs 105(3)(e) and (ea), and subsection 105(4) of the Act, which relate to industry performance in fulfilling universal service and Customer Service Guarantee obligations—Chapter 5 of the report; and
- > For paragraphs 105(5A) of the Act, which relates to national interest matters and cooperation with law enforcement agencies—Chapter 4 of the report.

Please note that subsection 105(7) of the Act requires that you table the report in each House of the Parliament within 15 sitting days of that House after you have received the report.

Regards
Yours sincerely

Chris Chapman
Chairman

Contents

Chairman’s foreword	1
Introduction and executive summary	2
Introduction	2
Legislative basis	2
Scope and structure of report	2
Executive summary	3
Key highlights	3
Australia’s communications networks	3
Changing consumer preferences for over-the-top (OTT) and mobile voice services	4
The economic value of internet-related transactions	4
Television, radio and online	5
Telecommunications consumer safeguards	5
National interest issues	5
Internet security	5
Broadcasting industry regulatory performance	6
ACMA complaint hotline for illegal and offensive online content	6
Key indicators—at a glance	7
Chapter 1: Industry supply of communications services	13
1.1 Overview	13
1.2 Fixed-line service availability	14
Number of services in operation	14
The continued shift from fixed-line telephony	14
Fixed-line telephone and OTT VoIP services	15
1.3 Mobile service availability	17
Number of services in operation and market share	17
Mobile network infrastructure	19
Mobile Black Spot Programme	19
Emerging mobile technologies—Voice over LTE and Voice over Wi-Fi	19
1.4 Internet service availability	20
Number of internet subscribers	20
Mobile-internet services	21
Publicly accessible wireless internet	22

Contents (Continued)

Number of internet service providers	23
Domain name registrations	25
National broadband network	25
Copper network switch-off	26
The Internet of Things and M2M	27
The cloud	28
1.5 Communications mergers and acquisitions	28
1.6 Carrier licensing and CSPs	29
1.7 Allocation of numbers	30
Smartnumbers	30
Geographic numbers	30
Digital mobile numbers	31
Other numbers	31
1.8 Broadcasting services	31
Number of broadcasters by segment (radio/television/commercial)	31
Commercial broadcasting services	32
Ownership and control of commercial television services	32
Ownership and control of commercial radio services	33
Cross-media ownership	35
Subscription television in Australia	36
Community radio and broadcasting licences	36
Temporary community radio broadcasting licences	36
Community television services	36
Community television transition	37
Community television trials	37
Advertising expenditure in main media	37
Chapter 2: Engagement with communications and media	42
2.1 Overview	42
2.2 Consumer take-up of communications services	43
Connectivity—take-up of the internet	43
Offline Australians	44
2.3 Accessing communications services	44
Variety of internet access devices	44

Contents (Continued)

Diversification of consumer internet access devices	45
Volume of data downloaded continues to increase	47
Data allowance—mobile and tablet	48
Frequency of internet use	49
Australians' diverse use of communications services	50
Mobile-only users	52
2.4 Use of communications services	52
Social networking activities	52
Communications apps	53
What communications apps are in use?	54
What devices are used for apps?	55
Performing activities online	56
Online audio and video	57
Growth in e-commerce activity	58
Online buying, selling and shopping	58
2.5 Consumer satisfaction with communications services	59
2.6 International trends	62
Communications services	62
Access to the internet	62
Internet access devices	63
Activities performed online	63
Chapter 3: Television, radio and online content developments	66
3.1 Overview	66
3.2 Audio content	67
Radio—traditional and audio streaming	67
Reach of radio	67
3.3 Video content	67
Household television sets	68
Reach of broadcast television	68
Time spent watching television and online content	68
Types of activities and devices used	69
Internet video	70
Subscription video on demand (SVOD)	71

Contents (Continued)

Viewing online video services	72
Content choice and other benefits	73
Technical experience	74
Who is watching online?	76
Streaming video through a specialised device	76
International trends	76
3.4 Online news services	77
3.5 Broadcasting in Australia	77
Australian content	77
Children’s programs on commercial television	78
Subscription television drama expenditure	79
Captioning	80
Notification of changes in control	82
Local information on regional television	83
Local content, information and presence on regional commercial radio	83
Anti-siphoning provisions	83
Digital broadcasting	83
Broadcasting complaints and investigations	84
3.6 Online content investigations	85
International cooperation to remove online illegal content	87
Interactive gambling	87
Chapter 4: National interest issues	89
4.1 Overview	89
4.2 Emergency call service	89
Emergency call service—Triple Zero and 112	90
Telstra’s performance in answering emergency calls	90
Calls connected to emergency service organisations	90
Precise mobile location for emergency service organisations	91
Enquiries and complaints about the Triple Zero service	91
Emergency call service—NRS	92
4.3 Supporting law enforcement and national security agencies	93
Disclosure of customer information	94
Emergency suspension of carriage services	96

Contents (Continued)

4.4	Interception	96
	Cost of providing assistance	96
	Interception capability plan compliance	97
4.5	Identity checking requirements for prepaid mobile carriage services	97
4.6	Role of the Integrated Public Number Database (IPND)	97
	CSP compliance with IPND requirements	97
4.7	Handling of life-threatening and unwelcome communications	98
4.8	Submarine cable protection	98
4.9	Radiocommunications interference complaints	99
	Domestic systems interference	99
	Radiocommunications interference	99
	ACMA radiocommunications compliance program	99
Chapter 5: Telecommunications consumer safeguards and quality of service		101
5.1	Overview	101
5.2	Telecommunications Industry Levy (TIL) and telecommunications public policy outcomes	101
	Industry levies and payments	102
	Final TIL assessment	102
5.3	Public payphones	102
	Numbers of payphones and payphone sites	103
	Payphone fault repair performance	104
	Payphones for people with disabilities	104
5.4	Customer Service Guarantee Standard	104
	CSG benchmark performance	106
	Appointments and fault repairs	107
	CSG Standard payments	109
	Exemptions from the CSG Standard	110
5.5	Network Reliability Framework (NRF)	110
	Level 1—national and field service area performance	110
	Level 2—local cable run remediation	112
	Level 3—individual service performance	112
5.6	Priority assistance	114

Contents (Continued)

5.7	Number portability	116
	Local number portability	116
	Freephone and local rate number (FLRN) portability	117
	Mobile number portability	117
5.8	Cabling regulation	117
	Registered cablers	117
	Cabling compliance	117
5.9	Do Not Call Register (DNCR)	118
5.10	Unsolicited communications—spam and telemarketing	118
5.11	Cybersecurity	120
5.12	Telecommunications codes—development and review	121
5.13	Industry compliance with telecommunications codes	121
	Compliance with the TCP Code	121
5.14	Industry compliance with TIO scheme	122
5.15	Complaints to the TIO	122
5.16	Communications infrastructure regulation	124
	Complaints to the TIO	124
5.17	Mobile phone base stations	125
	Complaints and enquiries to the ACMA	125
	Glossary	126
	Appendix—Research methodology	135
	Data sources	135
	ACMA-commissioned surveys	135
	Roy Morgan Single Source	136
	Other sources	136
	Data analysis	137
	Index	138

Chairman's foreword



I am pleased to present the ACMA *Communications report 2014–15*. This is the tenth consecutive edition of this report produced since the Australian Communications and Media Authority (the ACMA) was formed in July 2005.

The Communications report again provides a comprehensive overview of issues relating to the changing communications and media market in Australia, including changes in the way Australians engage with digital communications technologies and content.

One of the standout areas of change during 2014–15 has been the growing impact of over-the-top (OTT) services beyond their now established communications role, reflecting the growing popularity of OTT content services. While traditional free-to-air and subscription television continue to dominate Australian's content viewing, this year we report that 34 per cent of Australian adults watched online television or online professionally produced video content in a given week. The ACMA will continue to monitor with interest the impact of OTT video on the content industries.

The communications industry's ongoing infrastructure investment continues to support this internet-enabled communications environment. Over 90 per cent of the Australian population can now access 4G mobile networks and the progressive rollout of the national broadband network is facilitating access to higher bandwidth services.

Mobile services and the use of mobile devices have continued the overall growth trends seen in the last five years. Almost all adult Australians (94 per cent) have a mobile phone, and there was yet again a massive increase in the amount of data downloaded over mobile handsets (85 per cent since last year). The report also shows that a significant majority of Australians continued to be generally satisfied with their communications services, and that industry is broadly compliant with mandated performance requirements.

This year's report has been expanded to contain more information about content industries. For the first time, the ACMA reports on online video consumption and consumer satisfaction with the technical quality of the online video experience.

I commend the ACMA Communications report to you as an important evidence base, which provides information and analysis about the rapid change and innovation occurring in Australia's communications and media environment.

The ACMA welcomes feedback on this report so that its value to the national interest is further developed.

A handwritten signature in black ink, which appears to read 'Chris Chapman'. The signature is fluid and cursive, written over a light grey background.

Chris Chapman
Chairman

Introduction and executive summary

Introduction

Legislative basis

The *Communications report 2014–15* fulfils the ACMA's statutory reporting requirements under the *Telecommunications Act 1997* (the Act). Section 105 of the Act requires the ACMA to report annually on the performance of carriers and carriage service providers (CSPs) in meeting regulatory obligations with specific reference to consumer satisfaction, consumer benefits and quality of service. Information about the broadcasting industry's performance in meeting regulatory obligations is also included in this report—a reflection of the ACMA's regulatory remit and role as a converged communications and media regulator.

Scope and structure of report

The *Communications report 2014–15* comprises the following chapters:

- > *Chapter 1—The Australian communications and media market* presents a detailed analysis of key supply-side developments in the communications and media markets in Australia during the 2014–15 reporting period. This chapter focuses on the supply of communications and content services in Australia, including the number of carriers and CSPs and services in operation, and developments relating to the rollout of infrastructure.
- > *Chapter 2—Engagement with communications and media* presents information about consumer engagement with communications services and benefits derived from the services. This chapter includes changing consumer service preferences, current levels of consumer satisfaction with communications services, and international trends in service take-up and use.
- > *Chapter 3—Television, radio and online content developments* presents the changes in delivery of audio and video content including viewing behaviours for television, subscription and online content. It also discusses the performance of Australian broadcasters in meeting their regulatory obligations relating to broadcasting Australian content, captioning, changes in media ownership and control, the digitalisation of broadcasting services and complaints to the ACMA about broadcasting matters and prohibited online content.
- > *Chapter 4—National interest issues* presents information about the performance of the emergency call services, the cost of maintaining communications interception capabilities, the disclosure of customer information in support of law enforcement and national security investigations, submarine cable infrastructure protection, and radiofrequency interference complaints.
- > *Chapter 5—Telecommunications consumer safeguards and quality of service* examines the performance of key communications safeguards. These include the Customer Service Guarantee Standard, priority assistance and the Network Reliability Framework, the Do Not Call Register and related unwanted communications rules covering telemarketing and spam complaints. This chapter also examines number portability and complaints to the Telecommunications Industry Ombudsman.

Executive summary

Key highlights

The Australian launch of subscription video on demand (SVOD) services such as Netflix, Stan and Presto TV in early 2015 saw rapid consumer take-up of these over-the-top (OTT) streaming services in a relatively short period of time—11 per cent of Australian adults had watched Netflix in a given week, as at June 2015.

There was strong demand for streaming online video more generally, with 34 per cent of Australian adults watching online television or online professionally produced video content in a given week. The rise of SVOD services is complementing traditional viewing, with the television screen continuing to dominate in the home. On average, around 85 per cent of Australians aged 18 and over in the five major capital cities watched at least five minutes consecutively of free-to-air television (live and time-shifted) each week. In the combined regional markets, the figure was 84 per cent.

Access to radio is also popular with 97 per cent of adults having a radio in the home or car. Digital radio listening continued to grow reaching 3.2 million in Sydney, Melbourne, Brisbane, Perth and Adelaide at August 2015, up from 2.8 million in the previous 12 months.

Mobile services extended the overall growth trends seen in the last five years. The number of mobile services in operation increased by 2.5 per cent on the previous year to 31.77 million voice and data services at June 2015. This growth is in part attributed to increases in machine-to-machine communications.

Mobile phones are entrenched in the lives of almost all Australians with 94 per cent of adults using these portable devices to either send text messages or make calls at May 2015. While mobile phone use has remained steady since May 2013, smartphone adoption continued to increase. At May 2015, 13.41 million Australian adults (74 per cent) were estimated to be using a smartphone compared to 12.07 million (67 per cent) at May 2014.

The growth of mobile phone only consumers also continued during 2014–15 with 5.4 million adult Australians (29 per cent) estimated to be without a fixed-line telephone service in the home and using a mobile phone, an increase of two percentage points since June 2014.

Internet subscriber growth has slowed over the last four years with 33.76 million internet subscribers at June 2015, an increase of two per cent from June 2014. More Australians have an internet connection in the home—15.8 million or 86 per cent—up three percentage points from June 2014.

The top five ISPs by number of subscribers in the Australian market all report growth in the total number of broadband subscribers.

While use of mobile devices to access the internet has seen significant growth, fixed-line broadband (with subscriptions that generally offer faster download speeds and larger data plans than mobile handset internet subscriptions) nonetheless contributed 92 per cent of total growth in data downloads during the June quarter of 2015.

The total volume of data downloaded in Australia during the June quarter of 2015 was 41 per cent higher than the volume downloaded during the June quarter of 2014. Data downloaded via fixed-line broadband increased by 40 per cent and downloads using wireless broadband rose by 18 per cent.

Australia's communications networks

Investment by mobile network operators in communications infrastructure has seen the continued expansion of 4G services across Australia. All mobile network operators expanded their 4G networks, with Telstra's 4G coverage reaching 94 per cent of the population (up from 87 per cent in the previous

year) and Optus now covering almost 90 per cent of the population. VHA 4G now reaches 95 per cent of the metropolitan population.

The continued rollout of the national broadband network by NBN Co Limited resulted in an increased number of connected households. At June 2015 there were 1,153,077 premises serviceable (552,618 at June 2014) and 485,615 premises activated (210,628 at June 2014).

Australians continue to diversify their use of internet access devices, with mobile phones now the most popular devices used by adult Australians to access the internet (79 per cent of online Australians) followed by laptop computers (74 per cent), at May 2015. The availability of higher-speed internet services on both fixed and mobile networks, larger data download plans, and growth in the use of cloud content services are contributing to increases in streaming and downloading of content.

Internet connections will all soon be broadband connections with providers announcing that 2G networks will close, and dial-up services will cease, in 2016.

Internationally, Australia was ranked 11th in terms of mobile-internet penetration per 100 inhabitants at December 2014 (down from fourth in December 2013).

The number of fixed-line telephone services in operation has continued to decline in the past few years. During 2014–15, fixed-line telephone services in operation declined by one per cent to 9.08 million, consistent with the trend over recent years.

From a regulatory perspective, the compliance performance of Australia's communications and media organisations with regulated performance requirements continues to be very strong.

Changing consumer preferences for over-the-top (OTT) and mobile voice services

The shift to OTT and mobile voice services is evident in the ongoing decline in the number of fixed-line voice services in operation and related revenue.

The growth of OTT services is reflected by a continued use of voice over internet protocol (VoIP) services, accessed by 4.9 million adult Australians at June 2015. This shift towards OTT services is also evident in the use of communications services such as social networking (65 per cent of adult Australians) and instant messaging (42 per cent of adult Australians), both increasing four percentage points since May 2014.

Increases in consumer participation in digital media activities also reflect a changing consumer preference for OTT, with more than half of all adults (53 per cent) watching professional online video content, such as catch-up TV, video on demand and IPTV in the last six months.

Video and audio content is also contributing to the continued growth in the volume of data downloaded.

While 92 per cent of adult Australians accessed the internet in the six months to May 2015, an estimated 1.1 million (six per cent) had never accessed the internet at June 2015. While both groups are unchanged from the previous year, the number of adult Australians reporting that they have never accessed the internet has halved in the last five years, down from two million (12 per cent) at June 2010.

The economic value of internet-related transactions

Australian businesses continued to generate increased economic value from the internet with an estimated \$266.8 billion in revenue generated from online sales of goods and services during 2013–14, a \$20 billion increase over 2012–13.

Total advertising expenditure across the main media categories—print, television, radio, online, outdoor and cinema—decreased by 4.5 per cent in 2014 to \$12.8 billion. Advertising expenditure has increased for online and decreased for print, while television and radio revenue remains generally stable.

Expenditure on online advertising grew by 16.2 per cent to \$4.63 billion over the 2014 calendar year. This represented a 36 per cent share of total media advertising expenditure, compared to 30 per cent in 2013 and 25 per cent during 2012.

Television, radio and online

The growth in consumer participation in digital activities saw a continued shift to online service delivery models by traditional broadcasters and print media operators.

Nonetheless, watching free-to-air television live represents the largest share (59 per cent) of average time spent watching television or video content (excluding pre-recorded DVDs) among adults. Watching professional online content—catch-up TV, other free online video content, video content via a subscription service, or pay-per-view content—accounted for 16 per cent of time spent. The proportion of time spent watching online content was highest for those aged 18 to 24, at 56 per cent.

Listening to the radio remains popular with adult Australians, with 86 per cent listening to some radio in an average seven-day period to June 2015. This figure is very similar for the previous three years, with a slight increase from 2011 and 2012.

Telecommunications consumer safeguards

The Do Not Call Register recorded a six per cent increase in the number of listed telephone numbers, taking the total amount of numbers listed to 10.26 million.

Australia's CSPs demonstrated strong compliance with the regulatory safeguards supporting fixed-line telephone services. All qualifying CSPs met the Customer Service Guarantee performance benchmarks in the Telecommunications (Customer Service Guarantee—Retail Performance Benchmarks) Instrument (No. 1) 2011 with regard to installing and repairing standard telephone services and meeting appointments for residential and small business customers.

The total number of payphones once again declined, by 7.8 per cent from 28,068 to 25,876 during 2014–15.

The overall level of service provided to telecommunications customers is reflected in both strong satisfaction with telecommunications services and reduced complaints:

- > The majority of Australians are generally satisfied with their communications services. The highest levels of satisfaction are with fixed-line telephone services (89 per cent satisfied or very satisfied) and mobile phone services (88 per cent).
- > There has been a 10.4 per cent decline in the number of complaints to the industry complaints resolution body, the Telecommunications Industry Ombudsman. In 2014–15, new complaints were down to 124,417.

National interest issues

During 2014–15, mobile carriers introduced a new capability that allows emergency service organisations to more accurately determine the precise location of mobile callers to the Triple Zero service. The majority of emergency calls (66.9 per cent or 5,606,275) were made from mobile phones.

There was a small decrease (1.2 per cent) in the number of calls (104,076) to the emergency service numbers Triple Zero and 112.

Telstra again performed above emergency call answering regulatory requirements in terms of the time taken to answer each call.

Internet security

Growth in the intensity of Australians' online engagement is also matched by an increase in their exposure to network security risks. There was an increase in the average number of computer infections

reported under the Australian Internet Security Initiative by participants in 2014–15—averaging 26,645 per day compared to 25,839 in 2013–14.

Broadcasting industry regulatory performance

All free-to-air commercial television licensees met the Australian transmission quota and sub-quota requirements for drama, documentary and children's programs for the 2014 calendar year.

All regional commercial radio and television broadcasting licensees broadcast the required amount of material of local significance.

ACMA complaint hotline for illegal and offensive online content

During 2014–15, the ACMA received 4,801 complaints (an 18 per cent increase compared to 2013–14) and finalised investigations into 8,728 items of content as at 30 June 2015 (a complaint may result in the investigation of multiple items of content).

Key indicators—at a glance

Telecommunications services

Number of services

	Jun-11 (m)	Jun-12 (m)	Jun-13 (m)	Jun-14 (m)	Jun-15 (m)	Jun-14 to Jun-15 change (%)
Mobile services (voice and data)*	29.28	30.20	31.09	31.01	31.77	+2.5
Mobile handset internet subscribers	13.32	16.19	19.65	20.57	20.99	+2.1
Mobile wireless broadband (e.g., dongle/datacard)	4.79	5.86	6.15	5.95	6.00	+0.8
Total mobile internet services†	18.11	22.05	25.80	26.52	27.00	+1.8
Total internet service subscribers‡	24.23	28.23	32.00	33.05	33.76	+2.1
Fixed-line telephone services*§	10.54	10.44	9.42	9.19	9.08	-1.1

m=million.

*Change in data source from ACMA annual industry data request in June 2013 to company annual reports from June 2014.

†Sum of mobile phone handset and mobile wireless broadband subscribers.

‡Including mobile phone handset, mobile wireless broadband, fixed-broadband, satellite, fixed-wireless, other broadband and dial-up subscribers.

§Includes PSTN and other fixed-line telephone services. Due to a methodology change in 2014, data reported here differs from data reported in previous communications reports. In 2014, the total resale (retail services directly connected via another network) and retail services in operation are reported. In previous communications reports, wholesale and retail totals were reported.

Note: Counts of subscribers published in previous communications reports may vary due to revisions by the ABS. Percentage changes are calculated on non-rounded data.

Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

Use of services

	May-11 (m)	May-12 (m)	May-13 (m)	May-14 (m)	May-15 (m)	2014–15 change (%)
Fixed-line telephone users	n/a	13.83	13.34	13.37	13.07	-2.2
Smartphone users	n/a	8.67	11.19	12.07	13.41	+11.1
Mobile phone users without a home fixed-line telephone*	2.53	3.13	3.68	4.90	5.37	+9.5

*At June for each year.

m=million.

n/a=not available.

Note: Data relates to people aged 18 years and over. Percentage changes are calculated on non-rounded data.

Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

Regulated or contracted services

	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	2014–15 change (%)
Payphones (Telstra-operated and privately owned)	33,201	31,032	29,523	28,068	25,876	-7.8
	(m)	(m)	(m)	(m)	(m)	(m)
Number of telephone services covered by the CSG Standard	7.29	7.12	6.68	6.54	6.34	-3.1
CSP customers who have waived their rights under the CSG	0.066	0.228	0.248	0.324	0.867	+168

m=million.

**Relates to the number and value of compensation payments made by CSPs to customers occurring during the financial year.*

Source: See Chapter 5. Further explanatory details for this data can be found in the source chapter.

Communications network and service providers

	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	2014–15 change (%)
Members of the TIO scheme*	1,214	1,221	1,360	1,384	1,539	+11.2
Licensed carriers	191	187	201	208	229	+10.1
Number of ISPs†	97	81	77	71	69	-2.8

**Carriers and eligible CSPs to join the TIO scheme. Eligible CSPs are those providers who supply fixed standard telephone, mobile or internet services to residential and small-business customers.*

†ISPs with more than 1,000 subscribers operating in Australia as reported by the ABS.

Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

Digital services and engagement

4G mobile networks—Services in operation

	Jun-12 (m)	Jun-13 (m)	Jun-14 (m)	Jun-15 (m)	2014–15 change (%)
Telstra	0.375	2.8	5.2	7.7	+48.1
Optus	0.001	1.1	2.4	3.8	+58.3
VHA	n/a	n/a	1+*	n/a	n/a

m=million.

n/a=not available.

Note: VHA commenced 4G services on 10 July 2013.

**VHA only reported an approximate figure for June 2014.*

Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

nbn—Premises serviceable and activated

	Jun-12	Jun-13	Jun-14	Jun-15	2014–15 change (%)
Premises serviceable	n/a	n/a	552,618	1,153,077	+109
Premises activated	13,536	70,100	210,628	485,615	+131

n/a=not available.

Note: Total at 30 June for each year.

Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

Volume of data downloaded

	Qtr to Jun-11 (TB)	Qtr to Jun-12 (TB)	Qtr to Jun-13 (TB)	Qtr to Jun-14 (TB)	Qtr to Jun-15 (TB)	Qtr to Jun-14 to Qtr to Jun- 15 change (%)
Fixed-line broadband*	254,947	389,130	629,964	963,429	1,349,975	40.1
Wireless broadband†	19,149	25,301	27,232	32,731	38,673	18.2
Mobile handset internet	3,695	9,943	19,636	38,734	71,572	84.8
Total volume of data downloaded‡	277,897	424,374	676,898	1,034,959	1,460,269	41.1
	(GB)	(GB)	(GB)	(GB)	(GB)	(%)
Average per fixed-line broadband subscriber	47.1	69.4	107.9	155.0	207.0	33.5
Average per mobile phone handset internet subscriber	0.3	0.6	1.0	1.9	3.4	78.9

TB=terabyte.

GB=gigabyte.

**ADSL, cable, fibre and other fixed-line broadband.*

†Includes satellite, fixed wireless, mobile wireless via a datacard, dongle or USB modem and other wireless broadband.

Excludes subscriptions via mobile handsets.

‡Total includes dial-up volume.

Source: See Chapter 2. Further explanatory details for this data can be found in the source chapter.

Professionally produced online content services

	May-12 (m)	May-13 (m)	May-14 (m)	May-15 (m)	2014–15 change (%)
Accessed professionally produced online video content	5.16	7.86	8.22	9.62*	†
Accessed online news sites	n/a	11.39	10.79	10.28	-4.7
Paid for an online news subscription	n/a	1.08	1.18	1.24	+5.1

m=million.

n/a=not available.

*Calculated on changed basis in 2015. Data is at June-15.

†2015 data is not comparable with previous years due to a change in methodology.

Note: Content accessed in the six months to each date.

Base: Australians aged 18 years and over.

Source: See Chapter 3. Further explanatory details for this data can be found in the source chapter.

Online participation by Australians

	Jun-11 (m)	Jun-12 (m)	Jun-13 (m)	Jun-14 (m)	Jun-15 (m)	2014–15 change (%)
Have an internet connection at home	13.62	13.97	14.24	14.72	15.80	+7.3
Have a broadband connection at home	11.88	12.25	13.15	14.64	15.76	+7.7
Accessed internet via mobile phone during last 6 months*	n/a	5.62	10.91	12.50	13.21	+5.7
Number of '.au' domain name registrations†	2.12	2.44	2.67	2.86	2.97	+3.8
	2010–11 (b)	2011–12 (b)	2012–13 (b)	2013–14 (b)	2014–15 (b)	2012–13 to 2013–14 change (%)
Value of internet commerce (\$A) ‡	\$189	n/a	\$246	\$267	n/a	+8.5

m=million.

b=billion.

n/a=not available.

*In six months to May 2013 and May 2014.

†Excludes domain names registered under .gov.au.

‡The ABS defines internet e-commerce as the purchase/order of goods and services online regardless of whether or not the purchases were paid for online.

Note: Data relates to people aged 18 years and over.

Source: See Chapter 2. Further explanatory details for this data can be found in the source chapter.

Broadcasting licences

Commercial broadcasting and subscription television

	30 June 2011	30 June 2012	30 June 2013	30 June 2014	30 June 2015	2014–15 change (%)
Commercial radio	273	273	273	273	273	0.0
Commercial television	69	69	69	69	69	0.0
Subscription television*	2,728	2,719	2,735	2,735	2,735	0.0

*Each subscription service is licensed separately.

†Source: See Chapter 1. Further explanatory details for this data can be found in the source chapter.

Number portability

Local and mobile numbers ported

	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	2014–15 change (%)
Local geographic numbers	702,369	627,160	763,422	865,522	1,223,599	+41.4
Mobile numbers	1,896,016	2,627,350	1,743,485	1,668,163	1,721,284	+3.2
Freephone and local rate	18,830	12,814	13,096	11,088	12,495	+12.7

Source: See Chapter 5. Further explanatory details for this data can be found in the source chapter.

National interest matters

Call volumes to emergency call service numbers Triple Zero and 112

	2010–11	2011–12	2012–13	2013–14	2014–15	2013–14 to 2014–15 change (%)
Total number of calls offered	8,867,191	9,429,595	8,854,728	8,481,470	8,377,394	-1.2
Total percentage of calls answered	95.8%	96.0%	96.0%	96.0%	96.0%	0.0

Note: Calls offered refers to the number of calls waiting (at time zero) at the instant the four-second recorded voice announcement finished.

Source: See Chapter 4. Further explanatory details for this data can be found in the source chapter.

Disclosures of customer information by carriers and CSPs to support law enforcement and national security agencies

	2010–11	2011–12	2012–13	2013–14	2014–15	2013–14 to 2014–15 change (%)
Total number of disclosures	729,422	697,431	685,757	748,079	824,841	+10.3

Source: See Chapter 4. Further explanatory details for this data can be found in the source chapter.

Complaints and investigations

TIO, telemarketing and spam complaints/reports/enquiries

	2010–11	2011–12	2012–13	2013–14	2014–15	2013–14 to 2014–15 change (%)
TIO new complaints	197,681	193,702	158,652	138,946	124,417	-10.5
Telemarketing complaints and enquiries	n/a	n/a	30,604	31,797	30,293	-4.7
Spam complaints, reports and enquiries	n/a	226,816	412,725	349,319	352,362	+0.9

n/a=not available.

Source: ACMA and TIO. See Chapter 5. Further explanatory details for this data can be found in the source chapter.

Broadcasting and internet content complaints

	2010–11	2011–12	2012–13	2013–14	2014–15	2013–14 to 2014–15 change (%)
Broadcasting written enquiries and complaints	1,512	2,273	2,178*	1,593	1,012	-36.5
Internet content complaints received	4,865	5,026	4,633	4,051	4,801	+18.5

*This does not include 2,680 complaints and enquiries received about 2DAY's Summer 30 program broadcast on 4 December 2012.

Note: Investigations against a code of practice, licence condition, standard and/or provision of the Broadcasting Services Act 1992. Sum of categories does not equal total number of investigations completed due to exclusion of completed investigations with no finding; for example, where the complaint is withdrawn.

Source: See Chapter 3. Further explanatory details for this data can be found in the source chapter.

Chapter 1: Industry supply of communications services

1.1 Overview

This chapter addresses regulatory requirements to report on the efficiency of the supply and adequacy of communications services by examining the major developments that have occurred in the availability and use of communications and media services in Australia. This includes service provider offerings, provision and take-up of services, and communications infrastructure developments.

The number of fixed-line telephone services in operation continued to decline in 2014–15 while the supply of broadband services has increased. Mobile services in operation also increased, with growth occurring in the area of machine-to-machine (M2M) communications services.

A number of key infrastructure changes were announced in 2014–15, with service providers revealing that in 2016, 2G mobile networks will close and dial-up internet services will no longer be available from Telstra or TPG.

In summary:

- > smartphone use continued to increase with 13.41 million Australian adults (74 per cent) estimated to be using a smartphone at May 2015 compared to 12.07 million (67 per cent) at May 2014
- > use of mobile phones to make calls and send text messages has remained steady at 94 per cent since May 2013
- > there was increased growth in the number of mobile handset internet services in operation, reaching 20.99 million at June 2015, up from 20.57 million in June 2014
- > internet subscriber growth has slowed over the last four years with 33.76 million internet subscribers at June 2015, an increase of two per cent since June 2014
- > the number of Australian adults with a mobile phone but without a fixed-line telephone service in the home continued to increase, reaching 5.4 million adult Australians (29 per cent) at June 2015, an increase of two percentage points since June 2014
- > the Mobile Blackspot Programme—an Australian Government-led initiative that will see a major upgrade of mobile network coverage in regional areas and along major transport routes—was launched in 2014–15
- > key communications infrastructure continued to expand with:
 - > operators of 4G mobile networks now covering up to 94 per cent of the population
 - > continued rollout of the national broadband network, with almost half a million premises now connected
- > the top five ISPs by number of subscribers in the Australian market all reported growth in the total number of broadband subscribers
- > Australian cloud providers expanded their data storage capacity, with revenues from the data service market increasing by 18.3 per cent in Australia
- > during 2014–15, the number of registered .au domain names rose by four per cent to 2.97 million. The '.com.au' domain now accounts for 86 per cent of second-level domains
- > online advertising expenditure increased by 16.2 per cent to \$4.63 billion over the 2014 calendar year but a decrease in total advertising expenditure across the main media categories—print, television, radio, online, outdoor and cinema—down by 4.5 per cent in 2014 to \$12.8 billion. Advertising expenditure for television and radio revenue remains generally stable.

1.2 Fixed-line service availability

Number of services in operation

There were 9.08 million retail and resale fixed-line telephone services in operation at June 2015 compared to 9.19 million services at June 2014 (Table 1.1), a net decline of one per cent. This decline is also reflected in a reduction in the number of fixed-line services covered by the Telecommunications (Customer Service Guarantee) Standard 2011 (see Chapter 5 for more details). Telstra retail services accounted for 65 per cent of fixed-line telephone services at June 2015.

In 2015, Telstra's wholesale services increased by four per cent (53,000 services) to 1.34 million services at June 2015. However, this increase had a minimal impact on total fixed-line services in operation. Telstra experienced a decline of over four per cent in the number of retail fixed-line telephone services in operation during 2014–15 (264,000 services), similar to the rate of decline seen during 2013–14 (Table 1.1).

Telstra also reported a 7.1 per cent decline (\$266 million) in its fixed-voice product revenue during 2014–15, a marginally slower reduction compared to the 7.5 per cent revenue decline of \$325 million during 2013–14.¹

Table 1.1 Number of fixed-line telephone services in operation

	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	2014–15 change (%)
Total retail and resale	9.97 m	9.67 m	9.42 m	9.19 m	9.08 m	-1.1
Total Telstra (retail only)	7.16 m	6.88 m	6.53 m	6.25 m	5.98 m	-4.2

m=million.

Note: Percentage changes are calculated on non-rounded data.

Source: 2014 and 2015 figures are ACCC and ACMA retail and resale data collected from the top six services providers. 2011 to 2013 figures are ACMA retail and resale data collected from these service providers.

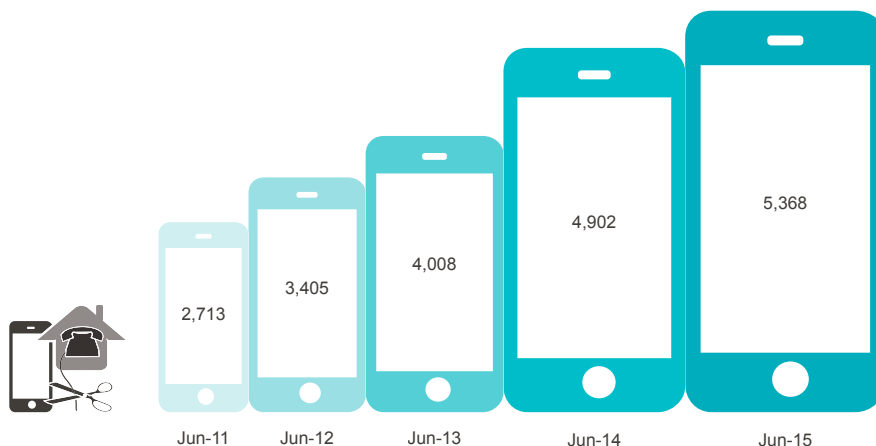
The continued shift from fixed-line telephony

Consumer communications usage continues to change, reflected in the ongoing decline in the number of fixed-line voice services in operation and related revenue.

Growth in mobile phone-only consumers

At June 2015, 29 per cent of the total adult population—5.4 million Australians aged 18 years and over—were estimated to be without a fixed-line telephone service in the home, an increase of two percentage points since June 2014 (Figure 1.1).

Figure 1.1 Growth in population with a mobile phone and no fixed-line telephone ('000)



Base: Data relates to people aged 18 years and over ('000s), in the 12 months to June of each year.

Note: Data has been revised from previously published figure due to changes in methodology of Roy Morgan Single Source. 'Don't know/can't say' responses are included from June 2014 onwards.

Source: Roy Morgan Single Source.

Fixed-line telephone and OTT VoIP services

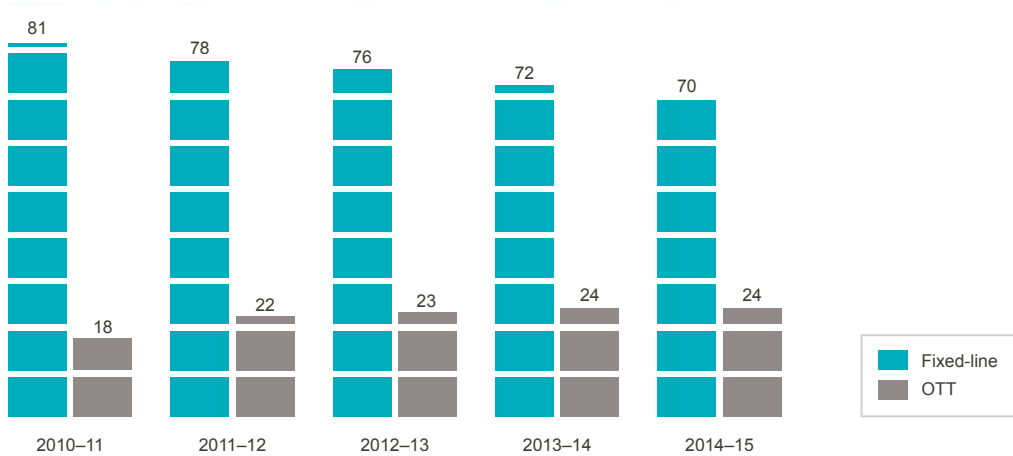
Seventy per cent of adults had a fixed-line telephone at June 2015 (Figure 1.2).

Over-the-top (OTT) communications are those delivered by an application that is run over the top of another carriage service, and can be accessed using any compatible internet access device. With their low cost and one-click access, OTT voice over internet protocol (VoIP) services are increasingly affecting traditional communications revenues, with the impact felt more and more by both mobile and fixed-voice service providers. Global voice traffic via OTT VoIP applications is predicted to reach 1.4 trillion minutes by 2018, translating to \$63 billion in lost revenue for traditional service providers.²

OTT VoIP can be distinguished from managed VoIP services—services that operate in a similar fashion to the fixed-line telephone.³

In Australia, 4.9 million (27 per cent) of people aged 18 years and over used a VoIP service at June 2015, including OTT and managed VoIP services. Twenty-four per cent of adults reported using some OTT VoIP (Figure 1.2).

Figure 1.2 Use of fixed-line telephone and VoIP services (percentage)



Base: Data relates to people aged 18 years and over, in the 12 months to June of each year.

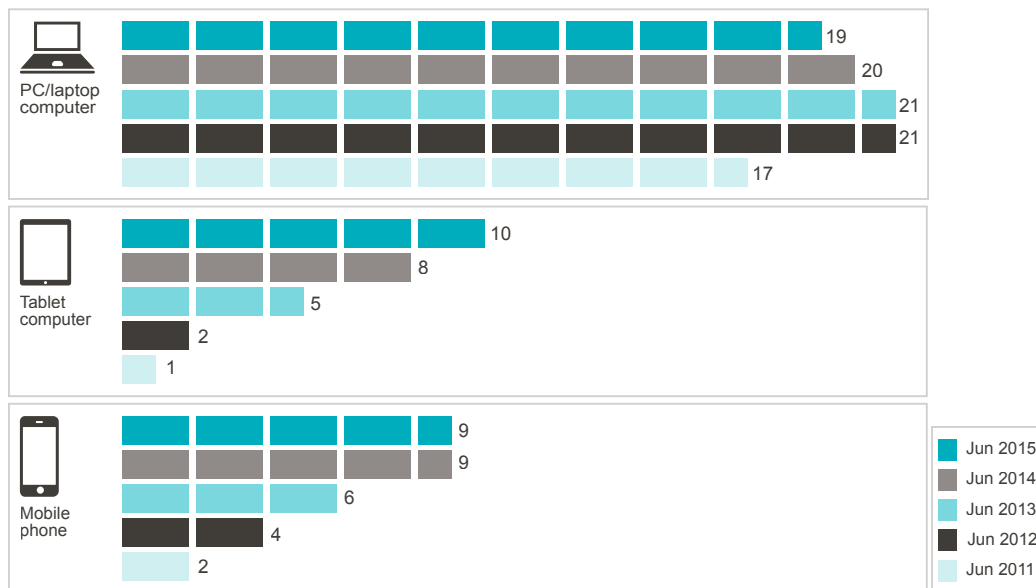
Note: Fixed-line telephone services include managed VoIP services. Those who report using a home fixed-line telephone to access VoIP are understood to be using a managed VoIP service, while those using PC/laptop, tablet computer and mobile phone to access VoIP are understood to be using an OTT VoIP service.

Source: Roy Morgan Single Source.

Looking at the types of devices used to access OTT VoIP services, tablets have become a more popular OTT VoIP access device than mobile phones for the first time (Figure 1.3).

The growth in the use of tablets for VoIP calls may be a reflection of the take-up of video calling—which is enhanced by the larger screen—and the availability of easy-to-use OTT VoIP applications such as Skype, FaceTime and Viber. In addition, the take-up of instant messaging services has increased. See Chapter 2 of this report for more detailed analysis of use of communications applications.

Figure 1.3 Use of OTT VoIP (percentage)



Base: Data relates to people aged 18 years and over, in the 12 months to June of each year.

Note: Fixed-line telephone services included managed VoIP services.

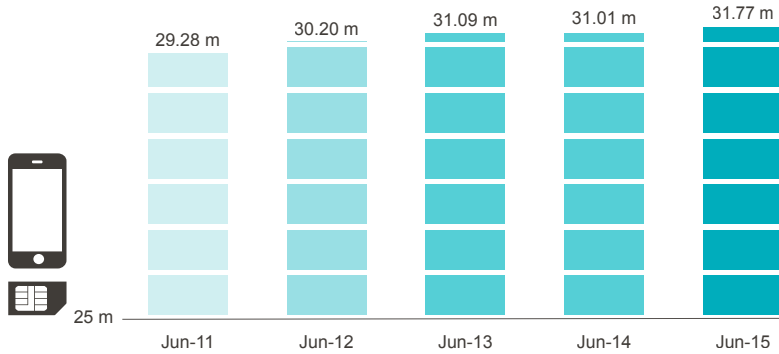
Source: Roy Morgan Single Source.

1.3 Mobile service availability

Number of services in operation and market share

At June 2015, there were an estimated 31.77 million mobile voice and data services in operation in Australia (Figure 1.4). This total figure comprises all voice and data services available over 2G, 3G and 4G services including mobile wireless internet services provided via data cards, dongles or USB modems. This is an increase of 2.5 per cent from June 2014 to June 2015, with some providers reporting that substantial increases in M2M communications services and wholesale services contributed to the growth.⁴

Figure 1.4 Mobile services in operation (millions)



m=million.

Note: Figures include wholesale and retail services and mobile wireless internet services provided via data cards, dongles or USB modems.

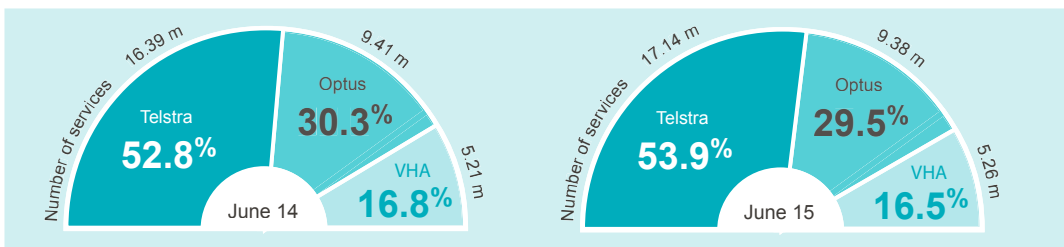
Source: Prior to 2013–14, data was sourced from an ACMA annual industry data request. From 2013–14, this data was sourced from company annual reports and press releases.

During 2014–15, mobile network operators continued to face intense competition, especially for data traffic, amid the rollout of 4G.⁵ Nevertheless, market share for the three mobile carriers remained largely stable.

Telstra had 53.9 per cent of mobile services in operation, while Optus had 29.5 per cent and VHA accounted for 16.5 per cent (Figure 1.5).

The 2014–15 financial year saw VHA reverse the decline of its customer base, with a 2.1 per cent increase in the 12 months to June 2015, in contrast to a 14 per cent decline during the previous year.⁶ This increase has been driven by growth in the take-up and use of post-paid and SIM-only plans, while VHA’s pre-paid customer base achieved more modest growth.

Figure 1.5 Mobile services in operation—carrier share and customer base



m=million.

Figures include retail services and wireless broadband data services provided via mobile handset, data cards, dongles or USB modems.

Note: Numbers may not add up due to rounding.

Source: Company annual reports and press releases.

Mobile network infrastructure

All mobile network operators continued to expand their 4G networks, increasing coverage. At June 2015, network operators reported that:

- > Telstra's 4G network covered 94 per cent of the population, up from 87 per cent over the previous year⁷
- > Optus expanded its 4G metropolitan population coverage to just below 90 per cent of the Australian population, with 3,787 sites of which 2,400 were upgraded to 700 MHz spectrum 4G⁸
- > VHA's network (including 3G and 4G) reached 96 per cent of the Australian population, with further growth expected. VHA's 4G network now reaches 95 per cent of the metropolitan population.⁹

The take-up of 4G mobile services continued to increase over 2014–15:

- > Telstra reported a 48 per cent increase in 4G services, with 7.7 million 4G devices on its network at June 2015 compared to 5.2 million at June 2014
- > Optus reported 290,000 new 4G subscribers, with 3.8 million 4G subscribers at 30 June 2015, compared to 2.4 million subscribers in June 2014.¹⁰

Telstra announced that its 2G (GSM) 900 MHz network will be decommissioned on 1 December 2016.¹¹ Optus announced that its 2G network will cease to operate in April 2017.¹²

Mobile Black Spot Programme

In June 2015, the Australian Government announced the launch of its Mobile Black Spot Programme, which aims to improve mobile phone coverage and competition in regional and remote Australia. The government committed \$100 million to the first round of the programme, with private sector investment also pledged—\$165 million from Telstra and \$20 million from Vodafone. Additional funding will come from state and local governments, businesses and community organisations.¹³ Round 1 of the programme will see:

- > 499 mobile base stations¹⁴ constructed or upgraded providing handheld coverage to 68,600 square kilometres of regional Australia
- > over 150,000 square kilometres of regional Australia receiving new external antenna coverage
- > more than 5,700 kilometres of major transport routes receiving either new external antenna or handheld coverage.

The government has announced that it will commit \$60 million for Round 2 of the programme, with funding to be available over two years from July 2016.

Emerging mobile technologies—Voice over LTE and Voice over Wi-Fi

With the expansion of 4G networks across Australia, providers have been exploring the use of new technologies such as Voice over LTE (VoLTE). VoLTE phone and video calls are made over the 4G LTE network. At present in Australia, 4G services carry data only, with calls from 4G-enabled phones reverting to the 2G and 3G networks.¹⁵

VoLTE is being tested by a number of service providers in Australia, with all three Australian mobile phone network operators advancing plans for VoLTE services:

- > in March 2015, Telstra announced plans to enable VoLTE across its 4G network coverage area, with a full commercial launch planned for June 2016¹⁶
- > Vodafone announced successful trials of VoLTE in February 2015, with plans to make this service available to customers later in 2015¹⁷
- > Optus ran trials of VoLTE in November 2013 over its 4G LTE network¹⁸, but has yet to make any announcement about enabling commercial VoLTE capabilities on its 4G network.

Wi-Fi calling services are carried over a Wi-Fi connection rather than the mobile phone network, offering a solution to mobile handset users who have Wi-Fi access but no mobile phone coverage. In the reporting


year, both Vodafone and Optus announced that Wi-Fi calling would be made available to customers in 2015.¹⁹

1.4 Internet service availability

Number of internet subscribers

There were 33 76 million internet subscribers in Australia at June 2014, an increase of two per cent since June 2014 (Table 1.2). The increase reflects continued growth in nbn-related services and mobile-internet services.

Table 1.2 Internet subscribers by technology type

	Jun-12 ('000)	Jun-13 ('000)	Jun-14 ('000)	Jun-15 ('000)	Jun-14 to Jun-15 change (%)
Mobile wireless (dongle, data card, USB modem services)	5,862	6,150	5,954	6,004	+0.8
ADSL	4,632	4,787	5,065	5,106	+0.8
Cable	917	934	946	996	+5.3
Dial-up	439	227	182	95	-47.8
Satellite	94	93	80	69	-13.8
Fixed wireless*	30	49	50	n/a	n/a
Fibre	52	115	203	420	+106.9
Other	10	3	2	n/a	n/a
Total (excluding mobile handset subscribers)	12,036	12,358	12,483	12,762	+2.2
Mobile handset	16,192	19,645	20,567	20,993	+2.1
Total (including mobile handsets)	28,228	32,003	33,050	33,755	+2.1

n/a=not available.

*Fixed wireless: for example, WiMAX uses an air interface to connect an internet service. An antenna installed at the customer's premises receives signals from the service provider's base station.

Note: ABS subscriber statistics measure the number of 'subscriber lines' rather than the number of 'users'. Counts of subscribers are not the same as counts of people/organisations with internet access as some subscribers may have accounts with more than one ISP or multiple accounts with a single ISP. Relates to ISPs with more than 1,000 subscribers. Subscriber numbers for 'fixed wireless' and 'other' were not available separately for June 2015 but are included in the total.

Source: ABS, 8153.0-Internet activity, Australia, June 2015.

A number of service providers announced that they would no longer be offering dial-up internet. TPG ceased sales of its dial-up internet plans at the start of 2015, while in June 2015, Telstra announced that it would retire the last of its dial-up internet services in December.²⁰ iiNet and Optus continue to offer dial-up as part of its suite of internet service options.

Mobile-internet services

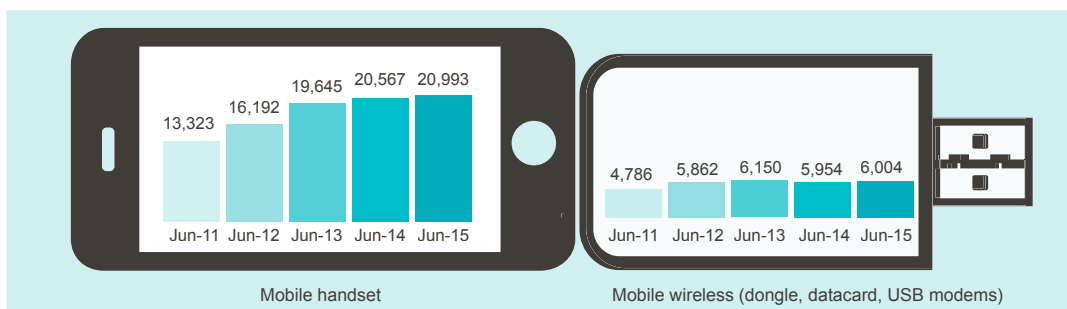
There were 27.00 million mobile-internet service subscribers at June 2015. This is an increase of two per cent over the year. There are two types of mobile-internet services reported here:

- > mobile handset—such as smartphones
- > mobile wireless—using dongles, datacards or USB modems.

Mobile-internet subscribers account for 85 per cent of all mobile services in operation at June 2015.²¹

The latest data from the Australian Bureau of Statistics (ABS) shows that mobile handset subscribers increased two per cent in the 12 month to June 2015 to reach 20.99 million subscribers. Mobile wireless internet subscribers increased by 0.8 per cent to reach just over six million subscribers (Figure 1.6).

Figure 1.6 Mobile-internet subscribers in Australia ('000s)



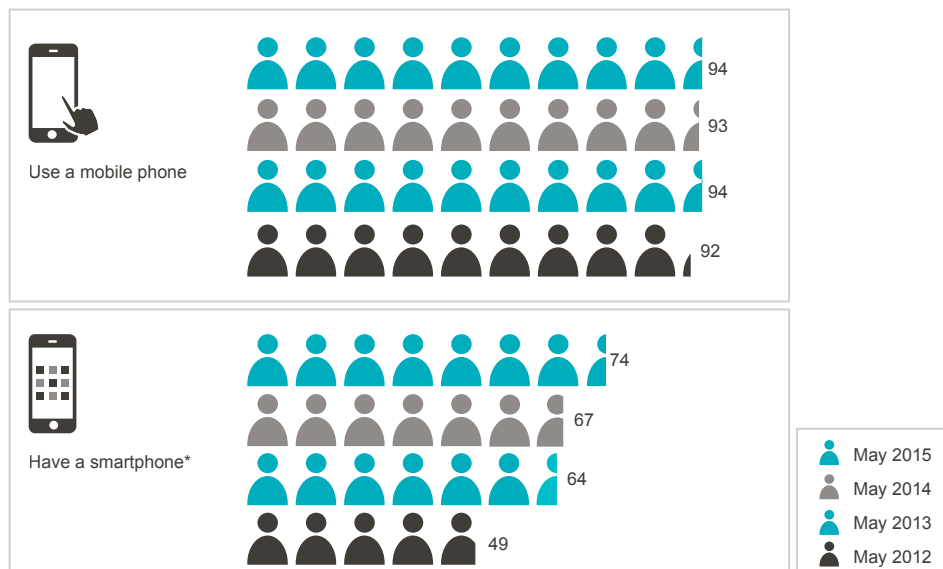
Base: Number of subscribers.

Note: The ABS has revised some mobile handset internet subscriber figures published in previous ACMA reports.

Source: ABS, 8153.0-Internet activity, Australia, June 2015.

At May 2015, 13.41 million Australian adults (74 per cent) were estimated to be using a smartphone compared to 12.07 million (67 per cent) at May 2014 (Figure 1.7). The proportion of adults using any mobile phone has remained between 93 per cent and 94 per cent over the past three years. This may indicate that mobile phone penetration has reached saturation levels as consumers continue to replace their mobile phones with smartphones.

Figure 1.7 Use of mobile phones, in the last six months to May (percentage)



*The figure previously published for 'Have a smartphone' at May 2014 has been revised by the ACMA.

Base: Australians aged 18 and over in the last six months

Note: Data was not available for May 2011. A smartphone is a mobile phone built on a mobile operating system, with advanced computing capability and connectivity.

Source: ACMA-commissioned survey.

Publicly accessible wireless internet

The 2014–15 reporting period saw strong activity in the expansion of Wi-Fi hotspots in Australia, and increasing consumer usage of publicly accessible wireless connections.²²

In September 2014, Telstra announced that it would roll out a network of Wi-Fi hotspots before July 2015, many co-located with its established payphone network. Initially providing access free of charge to any internet device user within range, the Wi-Fi hotspots delivered connection to more than 1.5 million separate devices following the launch of the trial in November 2014. Over 270 TB of data were downloaded via the hotspots in the five months to April 2015.²³

In June 2015, Telstra announced it would cease offering free access to its hotspots in preparation for the official launch of Telstra Air²⁴, a system of more than 4,000 Wi-Fi hotspots located at payphone sites, Telstra stores and home-located hotspots, known as 'homespots', created by Telstra customers.

Public Wi-Fi services continued to be rolled out by private and public organisations across the country, including shopping centres, cafes and libraries. In May 2015, the city of Canberra launched #CBRfree, a Canberra-wide free Wi-Fi hotspot service that allows users to 'access ... 250 MB per day for unlimited sessions of up to 24 hours'. CBRfree says that, when completed, this will be Australia's biggest free outdoor public Wi-Fi network.²⁵

Number of internet service providers

At June 2015, there were 69 internet service providers (ISPs) with more than 1,000 subscribers operating in Australia, down from 71 at June 2014. The distribution of ISPs by number of internet subscribers was:

- > 39 with 1,001–10,000 subscribers, down from 45 at June 2014
- > 20 with 10,001–100,000 subscribers, up from 18 at June 2014
- > 10 with 100,001 or more subscribers, up from eight at June 2014.²⁶

Table 1.3 provides a snapshot of the internet services in operation (SIOs) for the top five ISPs by number of subscribers in the Australian market—Telstra, Optus, iiNet, TPG and M2 Group. All five report growth in the total number of broadband subscribers.

Table 1.3 SIOs for key Australian ISPs

ISPs	Internet SIO	2013 (‘000)	2014 (‘000)	2015 (‘000)	Change (%)
Telstra	Fixed-broadband retail	2,772	2,956 [†]	3,145	+6.4
	Fixed-broadband wholesale	769	789	840	+6.5
	ISDN access (basic line equivalents)	1,285	1,225	1,137	-7.2
	Total fixed internet subscribers	4,826	4,970	5,122	+3.1
	Mobile broadband (data card)	3,570	3,679	3,866	+5.1
Optus	On-net broadband customers*	986	982	979	-0.3
	Off-net resale	13	9	7	-22.2
	Off-net nbn	n/a	13	54	+315.4
	Dial-up	12	10	9	-10.0
	Total fixed internet subscribers	1,011	1,014	1,049	+3.5
iiNet	On-net [†]	544	619	n/a	n/a
	Off-net	271	266	n/a	n/a
	nbn + Fibre [†]	25	65	n/a	n/a
	Total fixed internet subscribers	840	950	989	+4.1
TPG	On-net bundle	351	471	542	+15.1
	On-net standalone	236	205	173	-15.6
	Off-net	84	72	106	+47.2
	Total broadband subscribers	671	748	821	+9.8
M2 Group	Consumer subscribers	350	414	459	+10.9
	Business subscribers	38	43	47	+9.3
	Wholesale	25	25	24	-4
	Total fixed-broadband subscribers	413	482	530	+10.0

n/a=not available.

*Optus on-net includes HFC, ULL and business-grade broadband customers.

[†]Revised from previous year.

Note: Includes resale figures. Terminology used is consistent with that used in company annual reports. The number of subscribers is measured using the number of subscriber lines rather than number of users. Subscribers may have multiple accounts with more than one ISP. Numbers presented in the table also includes SIO of subsidiaries. Numbers may not add up due to rounding.

Source: Company annual reports and press releases.

Domain name registrations

The number of domain names registered in Australia continues to increase. Companies and organisations conducting business in Australia continued to use the '.au' domain to identify the locality of their business.

The registration of .au domain names is administered by .auDA (.au Domain Administration Ltd). The .au country code for Australia covers the second-level domains of '.com.au', '.edu.au', '.org.au', '.asn.au' and '.id.au'.

In the 12 months to June 2015, the number of registered .au domain names increased by four per cent to 2.97 million. The '.com.au' domain accounts for 86 per cent of second-level domains.

In 2014–15, '.gov.au' domain names were administered by the Department of Finance. At June 2015, 4,632 '.gov.au' domain names were registered, down from 4,740 at June 2014.²⁷

National broadband network

NBN Co Limited (nbn) was established on 9 April 2009 to design, build and operate the national broadband network (nbn network). The nbn network is Australia's first wholesale-only, open access broadband network and is intended to deliver high-speed broadband across Australia via a multi-technology mix including fibre, fixed wireless or satellite. The nbn network is an Australia-wide project to upgrade the existing fixed-line telephone and internet network infrastructure. Rollout of the nbn network is scheduled for completion by 2020, with nbn now in a position to take ownership of Telstra's copper and Hybrid Fibre Coaxial (HFC) cables.²⁸

Table 1.4 provides an overview of premises serviceable or covered by the nbn network and the number of premises with nbn services activated. For premises serviceable or covered by the nbn network at June 2015, nbn reported that:

- > 836,680 premises were serviceable by the nbn fibre network, an increase of 113 per cent since June 2014 (392,410), and 268,397 premises were passed by the fixed-wireless network, an increase of 139 per cent since June 2014 (112,208).
- > 485,615 premises had activated an nbn service, an increase of 131 per cent since June 2014. This includes 399,854 premises connected to the fibre network and 85,761 premises connected to fixed-wireless or satellite services.

Table 1.4 Cumulative premises serviceable and premises activated—nbn services

		at 30 Jun-14	at 30 Jun-15	Change (%)
Premises serviceable	Fixed-line footprint*	392,410	836,680	+113
	Fixed wireless	112,208	268,397	+139
	Satellite	48,000	48,000	0
	Total	552,618	1,153,077	+109
Premises activated	Fixed-line footprint*	151,127	399,854	+165
	Fixed wireless	16,553	47,473	+187
	Satellite	42,948	38,288	-11+
	Total	210,628	485,615	+131

*Fixed-line footprint refers to all non-fixed wireless or satellite connections.

Note: Premises serviceable refers to brownfield (existing) premises in a rollout region that is ready for service, greenfield (new development) lots/premises passed (by the nbn network) and/or premises covered by fixed wireless and satellite. It does not include Service Class Zero (SC0). SC0 are premises in the nbn fibre network footprint that cannot presently be provided with an nbn fibre service. For further definition, see WBA Dictionary at: http://www.nbnco.com.au/content/dam/nbnco/documents/sfaa-wba2-dictionary_20140430.pdf. Premises activated refers to premises that have an active service installed. Premises are activated after receiving and provisioning a service order from a retail service provider to install a new service.

Source: nbn, Annual report 2014–15, August 2015.

Copper network switch-off

From 23 May 2014, the nbn began replacing most existing fixed-line telephone links, ADSL internet and Telstra cable internet services (HFC) in the first 15 Fibre Serving Area Modules (FSAMs).

All premises within the nbn fibre footprint in each region are required to switch over to the nbn network before the designated switch-off date to continue receiving fixed-line telephone and internet services. Table 1.5 shows the locations disconnected from the copper network during the reporting period.

Table 1.5 nbn network rollout: Locations/regions disconnected from the copper network 2014–15

State/Territory	Location/region
ACT	Franklin, Gungahlin, Harrison, Lyneham, Mitchell, Nicholls, Palmerston, Watson
NSW	Armidale, Berkeley Vale, Blacktown, Boambee, Boambee East, Bonville, Coffs Harbour, East Gosford, Fountaindale, Glenning Valley, Gosford, Homebush, Jamisontown, Kiama, Kingswood, Lalor Park, Lidcombe, North Boambee Valley, Penrith, Point Frederick, Riverstone, Sawtell, Springfield, Strathfield, Toormina, West Gosford, Windsor
NT	Darwin City
Qld	Aspley, Cairns City, Castle Hill, Collingwood Park, Cranbrook, East Mackay, East Toowoomba, Harlaxton, Mackay, Mount Kynoch, Northgate, North Toowoomba, North Ward, Nundah, Railway Estate, Redbank Plains, Redwood, South Townsville, Toowoomba, Townsville City, West End, Withcott, Zillmere
SA	McLaren Vale
Tas.	Binalong Bay, Battery Point, Blackmans Bay, Dynnyrne, East Launceston, Hobart, Kingston, Launceston, Midway Point, Newstead, Scottsdale, Smithton, South Launceston, West Launceston
Vic.	Bacchus Marsh, Ballarat Central, Brunswick East, Brunswick, Carlton, Carlton North, Darley, Lake Wendouree, Newington, Mill Park, Parkville, Princes Hill, South Morang
WA	Mandurah, Meadow Springs, South Perth, Victoria Park

Source: Telstra Wholesale, NBN Co rollout and disconnection dates list, viewed 26 October 2015.

The coverage of the nbn network, including areas that are active or under construction, is published on the nbn website.²⁹

The Internet of Things and M2M

The 2014–15 reporting year saw a rising interest in the Internet of Things (IoT), both in Australia and more widely. The IoT is the aggregation of many machine-to-machine (M2M) connections and is not limited to communications, but includes big data analysis, cloud computing and sensors and actuators that, in combination, can efficiently run autonomous machines and intelligent systems.³⁰ Industry commentators predict that the development of the IoT will be characterised by a rapid increase in the number of connected devices and a swift evolution in the range of applications and services on offer.

Globally, M2M mobile connections are forecast to triple in the five years to 2020, accounting for up to 10 per cent of mobile connections³¹, while local estimates indicate that the M2M market is growing in Australia at 20 to 30 per cent per year.³² Telstra, Optus and Vodafone all reported increased activity in M2M services, with Telstra reporting M2M-related revenue growing by 11.9 per cent to \$113 million.³³

Australia's Communications Alliance has recognised the rising importance of the IoT, establishing a think-tank to maximise the potential of the IoT for Australian industry. Membership of the think-tank has been drawn from across a range of sectors, including the telecommunications industry, technology firms, and the Australian Government.

Internationally, a number of groups have been formed to set standards for the IoT. These include the Open Interconnect Consortium (OIC), established in February 2015, and the Industrial Internet Consortium (IIC) formed in March 2014.

The cloud

During 2014–15, Telstra reported establishing partnerships with Cisco, Amazon Web Services (AWS), VMware and IBM to strengthen its cloud services.³⁴

The other main telecommunications companies also continue to grow their cloud services. Optus offers hybrid cloud services partnering with Microsoft, while Vodafone partners with AWS to offer a range of services.

Many companies providing cloud services in Australia offer both platform or infrastructure as a service. Deployment models include public, private as well as hybrid clouds.

Cloud providers in Australia are rapidly expanding their cloud capacity and driving growth in the data service market. According to Frost and Sullivan, revenues from this market in Australia increased by 18.3 per cent in 2014 to \$826 million, with similar growth predicted for 2015.³⁵

1.5 Communications mergers and acquisitions

There were a number of mergers and acquisitions of communications companies and assets that occurred over 2014–15. These mergers and acquisitions will increase the presence of some of Australia's largest communications providers in the Asia-Pacific region, and will take advantage of the increasing demand for data, internet protocol television (IPTV) services and data applications by consumers and businesses in Australia (Table 1.6).

Telstra announced in April 2015 that it had completed its \$454 million acquisition of Pacnet, a provider of connectivity, managed services, and data centres in the Asia-Pacific region. The acquisition has significantly boosted Telstra's presence across the region, doubling its customer base, and increasing its network reach and data centre capabilities.

The M2 Group extended its reach into the New Zealand market by a \$245 million purchase of the Call Plus Group, New Zealand's third biggest telecommunications service provider.³⁶

Potentially the most significant event in the Australian telecommunications sector during the reporting period, TPG's proposed billion dollar acquisition of iiNet had gained the support of iiNet shareholders in June 2015, and was awaiting clearance by the Australian Competition and Consumer Commission (ACCC). On 20 August 2015, the ACCC announced that it would not oppose the acquisition, through which TPG has become Australia's second largest internet service provider by customer volume after Telstra.³⁷

Table 1.6 Key communications mergers and acquisitions

Purchaser	Target	Date	Value	Commentary
Telstra	Pacnet Limited	April 2015	\$454 million	Gives Telstra ownership of an extensive range of services across the Asia-Pacific, including software-defined networking, an expanded data centre network, and more submarine cables.
M2 Group	Call Plus Group (New Zealand)	June 2015	\$245 million	M2 becomes New Zealand's third largest telecommunications service provider.
TPG Telecom	iiNet	August 2015*	\$1.9 billion	The acquisition makes TPG the second largest retail broadband provider in Australia.

*Initial offer, made in March 2015, was revised in May 2015.

Source: Company annual reports and press releases.

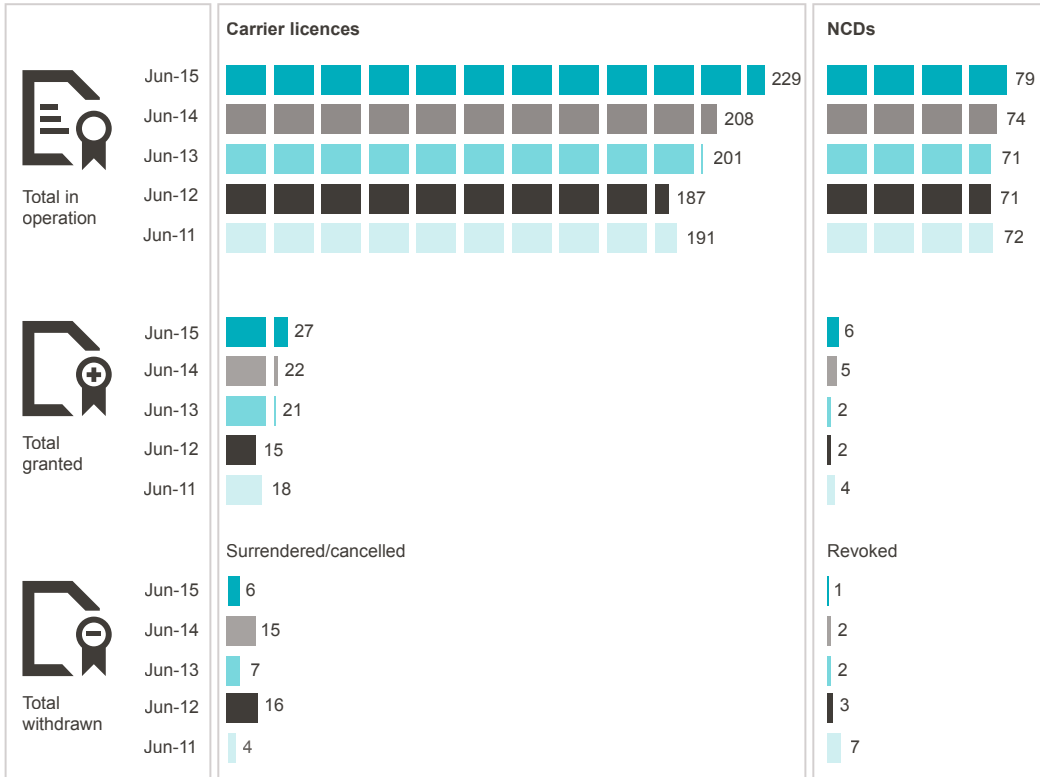
1.6 Carrier licensing and CSPs

There were 229 licensed carriers in Australia in 2014–15, with the ACMA granting 27 carrier licences over the year (Figure 1.8). In the same period, four carriers surrendered their licences and two licensed carriers were deregistered by the Australian Securities and Investments Commission.

At 30 June 2015, there were 79 nominated carrier declarations (NCDs) in force. In 2014–15, the ACMA granted six NCDs and revoked one.³⁸ During the same period, the ACMA issued three trial certificates compared with one in the previous period.³⁹

In the year to 30 June 2015, the total number of carriage service providers (CSPs) identified as members of the Telecommunications Industry Ombudsman (TIO) scheme continued to increase, reaching 1,539 (a 10 per cent increase). While CSPs do not need to be licensed or registered, TIO scheme membership is mandatory for all eligible CSPs that provide or resell telecommunications services to consumers and small businesses.

Figure 1.8 Carrier licensing and nominated carrier declarations



Source: ACMA.

1.7 Allocation of numbers

Smartnumbers

The smartnumbers auction system was introduced in 2004 as an efficient way to allocate freephone and local rate numbers (FLRNs)—numbers commencing with 13, 1300 and 1800—and to enable an appropriate return for this valuable and limited resource. In 2014–15, the last year of the system, the ACMA conducted public auctions each fortnight and sold 4,330 numbers, raising approximately \$1.66 million in revenue. This quantity of numbers was an 11 per cent increase compared to the 3,891 numbers sold in 2013–14, which raised approximately \$1.53 million in revenue.

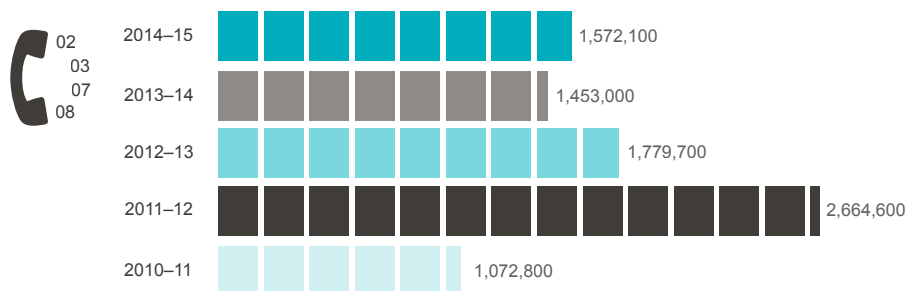
From August 2015, the sale of smartnumbers changed from auction to immediate purchase. This change will benefit individuals and organisations that purchase smartnumbers by reducing the delay, uncertainty and complexity inherent in the current auction process.

Geographic numbers

In 2014–15, CSPs were allocated 1,572,100 geographic numbers—an 8.2 per cent increase on allocations in 2013–14 (Figure 1.9).

There were no geographic numbers surrendered during 2014–15, compared with 90,000 numbers surrendered in 2013–14. During 2014–15, 103,100 geographic numbers were transferred between CSPs.

Figure 1.9 Trends in geographic numbers allocated



Source: ACMA.

Digital mobile numbers

During 2014-15, CSPs were allocated 1.2 million digital mobile numbers, down from 2.6 million during 2013-14. At 30 June 2015, 69.7 per cent of available mobile numbers had been allocated.

Other numbers

During 2014-15, two pre-selection over-ride codes and one mobile network code were issued to network operators. All remaining data network service numbers were surrendered during 2014-15.

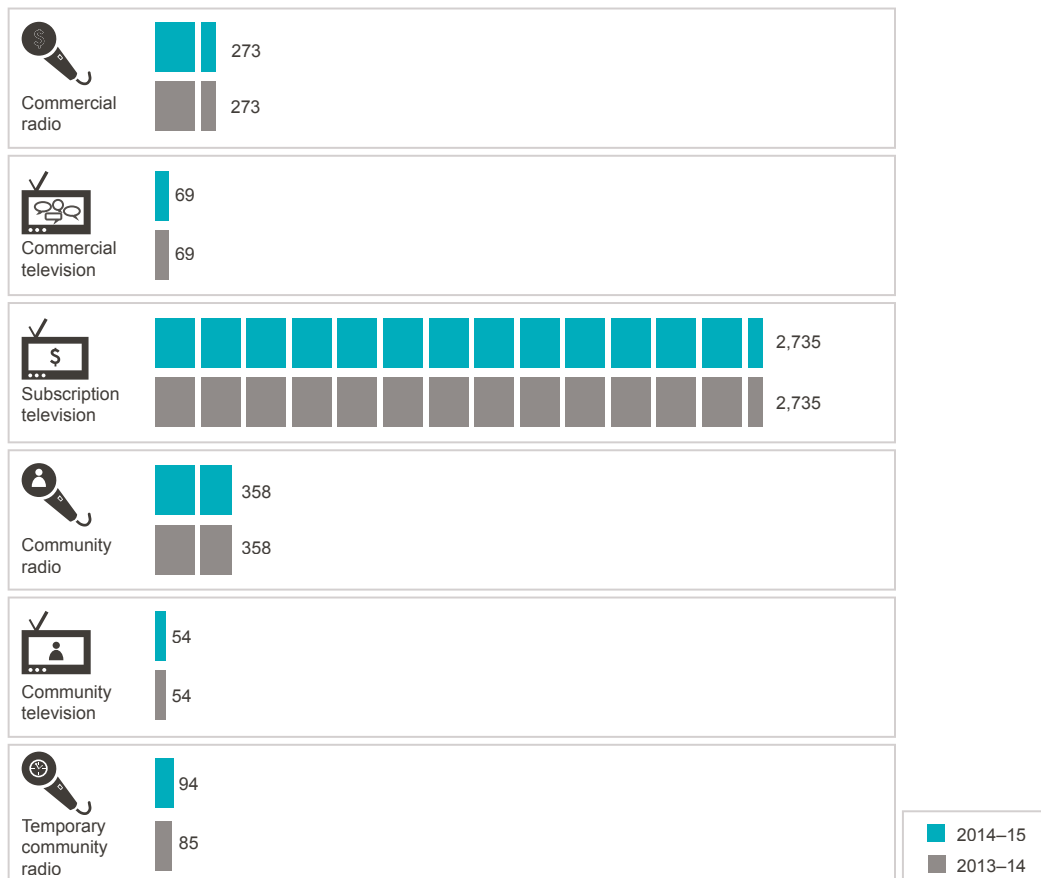
1.8 Broadcasting services

Number of broadcasters by segment (radio/television/commercial)

The number of commercial broadcasting licences in operation for television and radio saw minimal changes compared with the 2013-14 reporting period. At June 2015, the number of active licences in Australia were (Figure 1.10):

- > 342 commercial broadcasting (radio and television) licences, unchanged from last year
- > 2,735 subscription television licences, unchanged from last year
- > 506 community radio and television licences (including temporary licences), up by nine licences.

Figure 1.10 Number of broadcasting licences in operation in Australia



Source: ACMA.

Commercial broadcasting services

Commercial broadcasting services comprise free-to-air radio and television services that are made available to the general public. These services are licensed to operate within specified geographic areas and are subject to regulations to limit concentration of their ownership and control.

Ownership and control of commercial television services

During 2014–15, there were a number of control changes in the media. Some involved the transfer of licences to different media networks or groups while others were a result of financial or company restructures.

The Seven, Nine and Ten networks operate commercial television broadcasting licences predominantly in metropolitan markets. Their programming is also made available in regional markets through affiliation agreements with the regional television licences controlled by Prime Media Group Limited, Southern Cross Media Group Limited, WIN Corporation Pty Ltd and Imparja Television Pty Ltd.⁴⁰

There were no changes in the ownership and control of commercial television services in 2014–15. Table 1.7 summarises ownership and control of these services in Australia.

Table 1.7 Ownership and control of commercial television services (major networks)

Network	Licence type	Number	Ownership and control—licence areas
Seven Group Holdings Ltd	Metropolitan	5	Sydney, Melbourne, Brisbane, Adelaide and Perth
	Regional	1	Regional Queensland
Nine Entertainment Co Holdings Ltd	Metropolitan	5	Sydney, Melbourne, Brisbane, Adelaide and Perth
	Regional	3	Darwin (one sole operation and one joint venture with Southern Cross Media Group Ltd) and northern New South Wales
Ten Network Holdings Ltd	Metropolitan	5	Sydney, Melbourne, Brisbane, Adelaide and Perth
WIN Corporation Pty Ltd	Regional	21	Across regional Australia, including joint ventures in: <ul style="list-style-type: none"> > Tasmania with Southern Cross Media Group Ltd > Mildura, Geraldton, Kalgoorlie, Western Zone, South West and Great Southern television licence areas with Prime Media Group Ltd Also includes three licences in each of Griffith, Riverland and Mount Gambier South-East licence areas and Mount Gambier South-East licence areas
Southern Cross Media Group Ltd	Regional	19	Across regional Australia, including joint ventures in: <ul style="list-style-type: none"> > Darwin with Nine Entertainment Co Holdings Ltd > Tasmania with WIN Corporation Pty Ltd > Mt Isa and Remote Central and Eastern Australia TV2 licence areas with Imparja Television Pty Ltd Also includes three licences in each of the Broken Hill and Spencer Gulf licence areas
Prime Media Group Ltd	Regional	13	Across regional Australia including joint ventures in: Mildura, Geraldton, Kalgoorlie, Western Zone, South-West and Great Southern licence areas with WIN Corporation Pty Ltd

Note: Does not include licences for services provided by satellite allocated under section 38C and other licences allocated under subsection 40(1) of the Broadcasting Services Act 1992. The number of licences does not add up to the total number of commercial television broadcasting licences (69) due to double counting of joint ventures.

Source: ACMA, Register of Controlled Media Groups and the Media Control Database.

Ownership and control of commercial radio services

Table 1.8 shows the ownership and control of commercial radio services in 2014–15:

- > Southern Cross Media Group Limited, Australian Radio Network Pty Ltd, Nova Entertainment Pty Ltd and Macquarie Radio Network Limited own the majority of capital city commercial radio broadcasting licences.
- > Southern Cross Media Group Limited, Broadcast Operations Pty Ltd (Super Radio Network) and Grant Broadcasters Pty Ltd remain the three largest networks of regional commercial radio broadcasting licences.
- > Eight different networks control more than six commercial radio broadcasting licences, down from nine different networks in 2013–14 and 11 in 2012–13.
- > These eight networks together control 221 licences out of a total of 261 commercial radio licences that are subject to the media diversity and control rules under Part 5 of the *Broadcasting Services Act 1992* (BSA). This does not include commercial radio broadcasting licences allocated under subsection

40(1) of the BSA. The remaining 40 licences are held by 19 networks/owners, each with five or fewer licences.

The key changes that occurred in 2014–15 include:

- > On 31 January 2015, Radio Gippsland Pty Ltd (owned by Kevin Blyton) acquired one commercial radio licence in Warragul, regional Victoria, from Resonate Broadcasting Pty Ltd.
- > On 31 January 2015, Australian Radio Network Pty Ltd acquired one commercial radio licence in Perth from Fairfax Radio Network Pty Ltd.
- > On 24 March 2015, major shareholders in Australian Radio Network Pty Ltd (ARN), Independent News & Media PLC and Denis O'Brien (and related companies) ceased to be in a position to exercise control of ARN's 13 commercial radio licences.
- > On 31 March 2015, Macquarie Radio Network Pty Limited (MRN) merged with the radio business of Fairfax Media Limited (Fairfax). MRN acquired all six commercial radio licences held by Fairfax and Fairfax acquired 54.5 per cent of the issued share capital in MRN. In order for this transaction to proceed, MRN and Fairfax had to apply to the ACMA for prior approval, as it gave rise to an unacceptable media diversity situation (UMDS) in Mt Isa, and a temporary breach of the limit on a person being in a position to control more than two commercial radio licences in a licence area in Sydney. After accepting enforceable undertakings from MRN and Fairfax about the divestiture of stations in Mt Isa and Sydney, the ACMA granted approval and set a time frame of six months (extended to 31 October 2015) for the UMDS to cease and 12 months (to 30 March 2016) in which the temporary breach had to be remedied.

A discussion of broadcasters' compliance with notification of change in control requirements is in Chapter 3 of this report.

Table 1.8 Ownership and control of commercial radio services

Network group company	Total licences controlled	Ownership and control—licences and operations
ACE Radio Broadcasters Pty Ltd	13	Licences in regional Victoria and one licence in the regional New South Wales licence area of Albury, which includes parts of regional Victoria
Australian Radio Network Pty Ltd	13	Metropolitan licences in Adelaide (2), Brisbane (2), Melbourne (2), Sydney (1) and Western Suburbs, Sydney (1) One regional radio licence in Katoomba, News South Wales Two joint-venture licences with Nova Entertainment Pty Ltd, one in each of Brisbane and Perth, and two joint-venture licences with Southern Cross Media Group Ltd in Canberra
Nova Entertainment Pty Ltd	10	Metropolitan licences in Adelaide (2), Brisbane (1), Melbourne (2) and Sydney (2) as well as one regional radio licence in Gosford, New South Wales Two joint-venture licences with Australian Radio Network Pty Ltd, one in each of Brisbane and Perth
Grant Broadcasters Pty Ltd	52	A metropolitan licence in Perth Licences in regional areas in New South Wales, Northern Territory, Queensland, Victoria, South Australia and Tasmania, including five joint-venture licences with Kevin Blyton which are part of the Capital Radio Network
Macquarie Radio Network Ltd	14	Metropolitan licences in Brisbane (2), Melbourne (2), Perth (1) and Sydney (3)* Six licences in regional areas in Queensland—Charleville (2), Emerald (1), Kingaroy (1), Mt Isa (1)*, and Roma (1)
Redwave Media Ltd/ Seven Group Holdings Ltd	9	Licences in regional areas in Western Australia
Southern Cross Media Group Ltd	78	Two metropolitan licences in each of Adelaide, Brisbane, Melbourne, Perth and Sydney Licences in regional areas in New South Wales, Queensland, Tasmania, Victoria, South Australia and Western Australia Two joint-venture licences with Australian Radio Network Pty Ltd in Canberra
Broadcast Operations Pty Ltd (Super Radio Network)	36	Licences in regional areas of New South Wales and Queensland. One metropolitan licence in Sydney

*The ACMA granted prior approval of temporary breaches of the control rules in Sydney and Mt Isa—see commentary.

Note: Table includes networks with more than six licences.

Source: ACMA, Register of Controlled Media Groups and the Media Control Database.

Cross-media ownership

A small number of entities control two types of media assets in the same market:

- > Southern Cross Media Group Ltd controls a combination of radio and television broadcasting licences in 26 radio licence areas.
- > Fairfax Media Limited controls two radio licences and a newspaper in Melbourne, and three radio licences and a newspaper in Sydney.⁴¹
- > Seven Group Holdings Limited controls a television licence and a newspaper in Perth.

- > WIN Corporation Pty Ltd controls a radio and television licence in Wollongong.
- > Lachlan Murdoch, through his position as Non-Executive Co-Chairman of News Corporation and interests in Nova Entertainment Pty Ltd, controls two radio licences and an associated newspaper in each of the Sydney, Brisbane, Adelaide and Melbourne metropolitan licence areas.

Subscription television in Australia

In 2014–15, no new subscription television broadcasting licences were allocated by the ACMA.

Community radio and broadcasting licences

At 30 June 2015, there were 358 long-term community radio broadcasting licences, representing a range of community interests (Table 1.9). Fifty per cent of community radio broadcasting services represent the general community in the licence area where they broadcast.

During 2014–15, the ACMA:

- > renewed 61 community radio broadcasting licences
- > decided not to allocate two community radio broadcasting licences.

Table 1.9 Community radio broadcasting services by community interest, June 2015

Community interest	Number of licences	Total (%)
Aboriginal and Torres Strait Islander	95	26
Educational/special interest	21	6
Ethnic	6	2
General geographic area	177	50
Music	8	2
Religious	35	10
Senior citizen	8	2
Youth	8	2
Total	358	100

Source: The ACMA.

Temporary community radio broadcasting licences

The temporary community radio broadcasting licence scheme allows the ACMA to allocate non-renewable community radio licences to eligible aspirant broadcasters. There were 94 temporary licences at 30 June 2015.

Community television services

There were 54 long-term community television broadcasting licensees at 30 June 2015, of which three were in the metropolitan areas of Brisbane, Melbourne and Sydney. The remaining 51 were remote Indigenous broadcasting services.

Community television transition

Community television services currently have temporary access to spectrum to broadcast to the five mainland state capitals (Sydney, Melbourne, Brisbane as well as trials in Adelaide and Perth). Community TV licences are only authorised to broadcast until 31 December 2015. The government has announced that it believes the best long-term outcome for community television is a transition to an online-only platform and has made funding available to assist community television broadcasting licensees with the initial set-up and service costs associated with the sector's preferred online platform. Following this, the government intends that these broadcasting services will migrate to the internet.

Community television trials

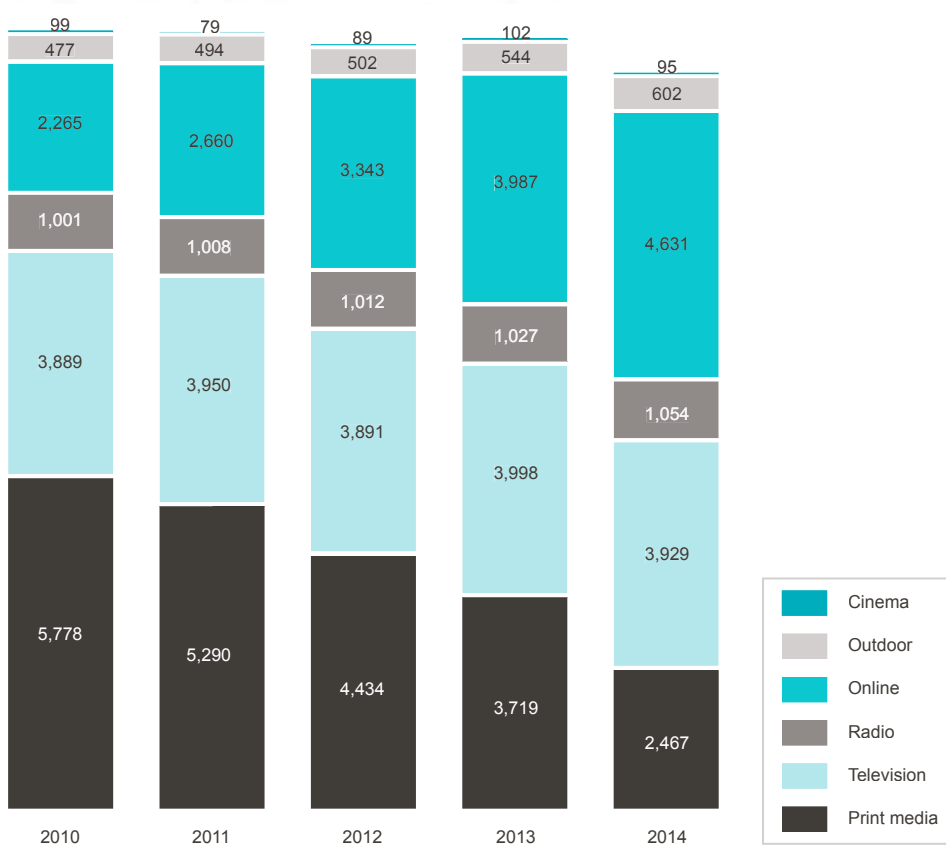
During 2014–15, the ACMA decided to extend community television trials in Adelaide and Perth for a further 12-month period from 1 January 2015 to 31 December 2015.

Advertising expenditure in main media

Commercial Economic Advisory Service of Australia (CEASA) data for the year ended 31 December 2014 shows that total advertising expenditure across the main media categories—print, television, radio, online, outdoor and cinema—decreased by 4.5 per cent in 2014 to \$12.8 billion.⁴²

Online and television media attracted the major share of advertising expenditure during this period, as shown in Figure 1.11. In 2014, these media platforms accounted for approximately a third of total advertising expenditure (36.2 and 30.7 per cent respectively). The print media's share of total advertising expenditure decreased to 19.3 per cent in 2014, compared to 27.8 per cent in 2013. Over the same period, expenditure on online advertising grew by 16.2 per cent, followed by outdoor (10.8 per cent) and radio (2.6 per cent).

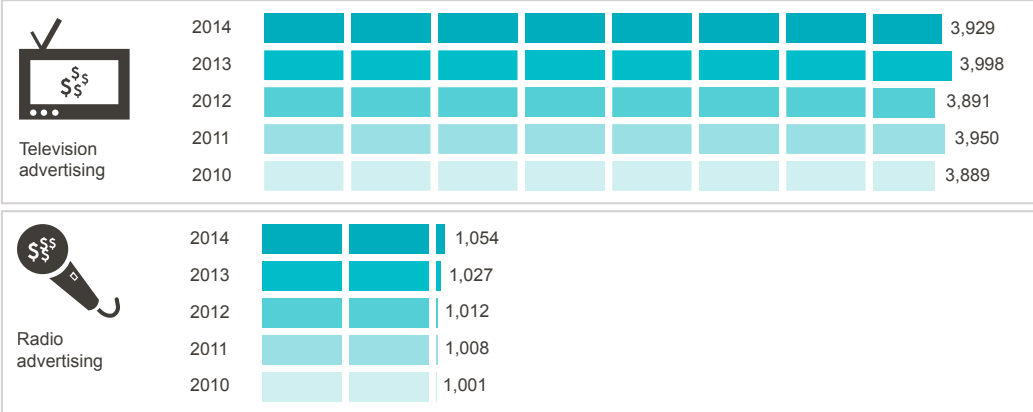
Figure 1.11 Advertising expenditure by main media category (\$ millions)



Source: CEASA.

Figure 1.12 demonstrates the relative stability of the television and radio sectors' share of the advertising expenditure market over the last five years, according to CEASA. Despite the overall decline in advertising expenditure in 2014, television's share has remained relatively steady—increasing slightly from 29.9 per cent in 2013 to 30.7 per cent in 2014. Radio saw its share of total advertising expenditure increase from 7.7 per cent in 2013 to 8.3 per cent in 2014.

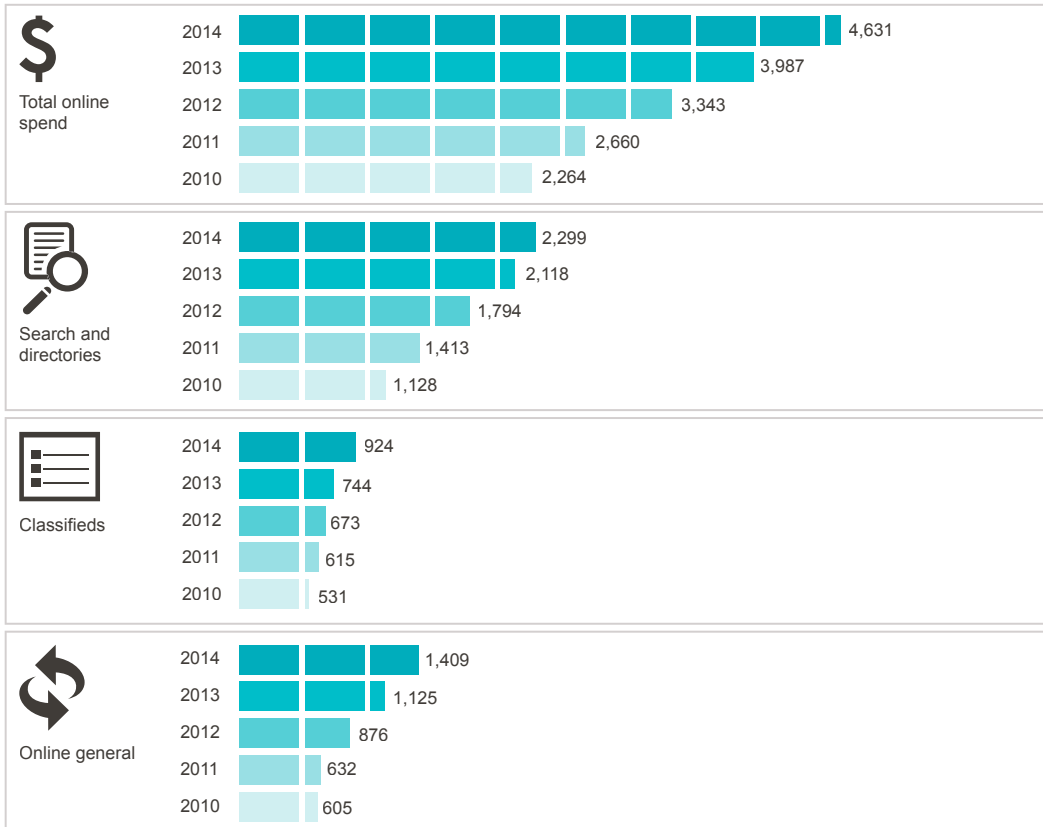
Figure 1.12 Television and radio advertising expenditure (\$ millions)



Source: CEASA.

Expenditure on online advertising grew by 16.2 per cent to total \$4.63 billion over the 2014 calendar year. This represented a 36.2 per cent share of total media advertising expenditure compared to 29.8 per cent in 2013 (Figure 1.13). The 2014 calendar year was characterised by significant growth in all online advertising categories with the online general category exhibiting the greatest proportional increase. Revenue in the classifieds and search and directories online categories increased by 24 per cent and nine per cent respectively, with the online general category reporting a year-on-year revenue increase of 25 per cent.

Figure 1.13 Online advertising expenditure (\$ millions)



Note: Numbers may not add up to total due to rounding.

Source: CEASA.

Endnotes

- ¹ Telstra, 'Full Year 2015 Financial Results—CEO/CFO Analyst briefing presentation', 13 August 2015.
- ² Ovum, Consumer OTT VoIP Outlook 2013–18, November 2013.
- ³ Managed VoIP is a service that is bought through a service provider that typically provides hardware (such as a VoIP handset or adapter), issues a phone number and may set quality of service expectations. Users of managed services are able to contact, and be contacted by, all other end users connected to a public telecommunications network.
- ⁴ For example, at June 2015 Telstra reported a 22.7 per cent increase in M2M services from the previous year.
- ⁵ Hutchison Telecommunications (Australia) Limited, 'ASX Half Year Results 30 June 2015', 21 July 2015.
- ⁶ *ibid.*
- ⁷ Telstra, 'Full Year 2015 Financial Results—CEO/CFO Analyst briefing presentation', 13 August 2015.
- ⁸ Singtel, Singapore Telecommunications Limited and Subsidiary Companies, 'Management discussion and analysis of financial condition, results of operations and cash flows for the first quarter ended 30 June 2015', 13 August 2015.
- ⁹ Hutchison Telecommunications (Australia) Limited, 'ASX half year information 30 June 2015', 21 July 2015.
- ¹⁰ Singtel, 'Singapore telecommunications limited and subsidiary companies, Management discussion and analysis of financial condition, results of operations and cash flows for the first quarter ended 30 June 2014', 14 August 2014.
- ¹¹ Telstra, 'Decommissioning our 2G (GSM) 900MHz network', 8 April 2015.
- ¹² Optus, 'Optus to cease 2G services from April 2017', 5 August 2015.
- ¹³ P. Fletcher, 'Mobile Black Spot Programme to deliver almost 500 new or upgraded base stations with total investment of \$385 million', 25 June 2015.
- ¹⁴ Of the 499 towers, 429 are owned by Telstra, 70 by Vodafone.
- ¹⁵ More details regarding VoLTE technology in Australia are available in the ACMA's recent report 'The Evolution of VoIP in Australia', 17 June 2015.
- ¹⁶ Communications Day, 'Telstra to wholesale 4G mobile in 2016', 17 March 2015.
- ¹⁷ VHA, 'Vodafone 4G calling: Successful start to VoLTE trials', media release, 6 February 2015.
- ¹⁸ ZDNet 'Optus joins Voice over LTE race', 25 November 2013.
- ¹⁹ Taylor, J., 'Optus customers to get Wi-Fi calling on iOS and Android', ZDNet, 7 May 2015.
- ²⁰ Sadauskas, A., 'Telstra to kill off dial-up', IT News, 19 June 2015.
- ²¹ Mobile-internet subscribers provided by the ABS as a proportion of the total mobile voice and data subscribers provided by the ACMA.
- ²² ACMA, 'Strong signals: growing use of publish Wi-Fi hotspots', 26 November 2014.
- ²³ Communications Day, 'Telstra targets regions in Wi-Fi double-down', 15 April 2015.
- ²⁴ A. Coyne, 12 June 2015, 'Telstra to switch off free wi-fi hotspots from Sunday', IT News.
- ²⁵ CBRfree website. http://digitalcanberra.com.au/projects/canberra-public-wi-fi-strategy-2/#.VdbP5_N-9dU
- ²⁶ ABS, '8153.0—Internet activity', Australia, June 2015.
- ²⁷ On 1 July 2015, the responsibility for the gov.au domain name administration function was transferred to the Digital Transformation Office.
- ²⁸ NBN Co, media release, 'Deal to accelerate nbn rollout comes into effect', 26 June 2015.
- ²⁹ <http://www.nbnco.com.au/develop-or-plan-with-the-nbn/check-rollout-map.html>
- ³⁰ OECD, Committee on Digital Economy Policy, Digital Economy Outlook, Chapter 5 Emerging Issues; The Internet of Things, p. 4.
- ³¹ eMarketer, The Internet of Things: Tracking the 'Cross-Everywhere' Consumer, 23 June 2015.
- ³² *Commwire*, 21 January 2015
- ³³ Telstra, Telstra Annual Report 2015, 13 August 2015, p. 23
- ³⁴ *ibid.*, p. 14
- ³⁵ Long, G., Communications Day, 'Australian datacentre service market tipped for double-digit growth: Frost and Sullivan', 3 September 2015.
- ³⁶ M2, 'M2 to acquire Call Plus Group & 2 Talk', <http://m2.com.au/GetPdf.axd?id=641595>.
- ³⁷ Sadauskas, A., 'TPG's iiNet takeover is "bittersweet" for Michael Malone', ITNews, 21 August 2015.
- ³⁸ A nominated carrier declaration permits the owner(s) of one or more network units to nominate a carrier to supply carriage services over those units to the public, subject to the carrier satisfying the ACMA that it would be in a position to comply with carrier-related obligations in respect of those network units.
- ³⁹ A trial certificate permits the owner of one or more network units to trial new network units and services without the need for a carrier licence. A trial certificate may be issued for a period up to six months.
- ⁴⁰ Imparja Television Pty Ltd and Southern Cross Media Group Ltd jointly control digital-only television licences, one in each of the remote central and eastern Australian television licence areas and the Mt Isa television licence area.
- ⁴¹ The ACMA accepted an enforceable undertaking and granted prior approval of the temporary breach of the limit on a person being in a position to control more than two radio licences in a licence area, requiring one commercial radio licence in Sydney is to be divested by 30 March 2016.
- ⁴² Commercial Economic Advisory Service of Australia (CEASA), Advertising expenditure in main media: Year ended 31st December 2014. April 2015, p. 1.

Chapter 2: Engagement with communications and media

2.1 Overview

This chapter addresses regulatory requirements to report on the efficiency, adequacy and quality of services supplied by carriage service providers by examining Australians' participation in communications and media services. It focuses on Australians' online activities, their take-up and use of devices that connect to the internet and other communications services, as well as the behaviours that Australian internet users adopt in an online environment. This chapter considers consumer benefits and engagement including satisfaction with communications services.

An overwhelming majority of Australians are internet users, with 92 per cent going online in the six months to May 2015.

There has been an increase in the growth of internet connections to the home, with approximately 86 per cent of adult Australians (15.8 million) having an internet connection in the home (up three percentage points on last year).

Australians are also using more devices to connect to the internet. In the six months to May 2015, 26 per cent of internet users accessed the internet via five or more devices, compared to 23 per cent in the six months to May 2014.

Australians engage in a broad range of activities online. At June 2015, half of the adult population (50 per cent) undertook five or more online activities in the previous four weeks, ranging from email and general browsing activities, social networking, and accessing government websites through to work and education, online shopping and accessing online audio and video content.

Research continues to show that Australians experience high satisfaction with communications services, including fixed telephone, mobile and internet.

In summary:

- > seventy-nine per cent of online adults used a mobile phone to access the internet in the last six months—an increase of three percentage points since May 2014
- > the use of a desktop computer to access the internet continued to decline—down six percentage points to 61 per cent of online adults at May 2015
- > the use of fixed-line telephony also continued to decline, with 68 per cent of adults making a fixed-line call in the six months to May 2015, down 10 percentage points from 78 per cent three years ago at May 2012
- > strong growth continued (41 per cent) in the volume of data being downloaded in Australia indicating a continued increase in online engagement
- > use of over-the-top (OTT) communications services continued to increase:
 - > 65 per cent of adults used social networking communications services, an increase of four percentage points since May 2014
 - > 42 per cent of adults used instant messaging, an increase of four percentage points since May 2014
 - > in terms of communicating via apps, sending messages was the preferred way to stay in touch online with Facebook Messenger and Skype the most popular communications apps
- > the majority of Australians were generally satisfied with their communications services. Eighty-nine per cent were satisfied or very satisfied with their fixed-line telephone services, and 88 per cent were satisfied or very satisfied with their mobile phone service

- > more than seven million adults made a purchase or sold something online in the four weeks to June 2015
- > Australian businesses generated an increased economic value from the internet earning an estimated \$266.8 billion in revenue from the online sales of goods and services during 2013–14, a \$20 billion increase over 2012–13.

2.2 Consumer take-up of communications services

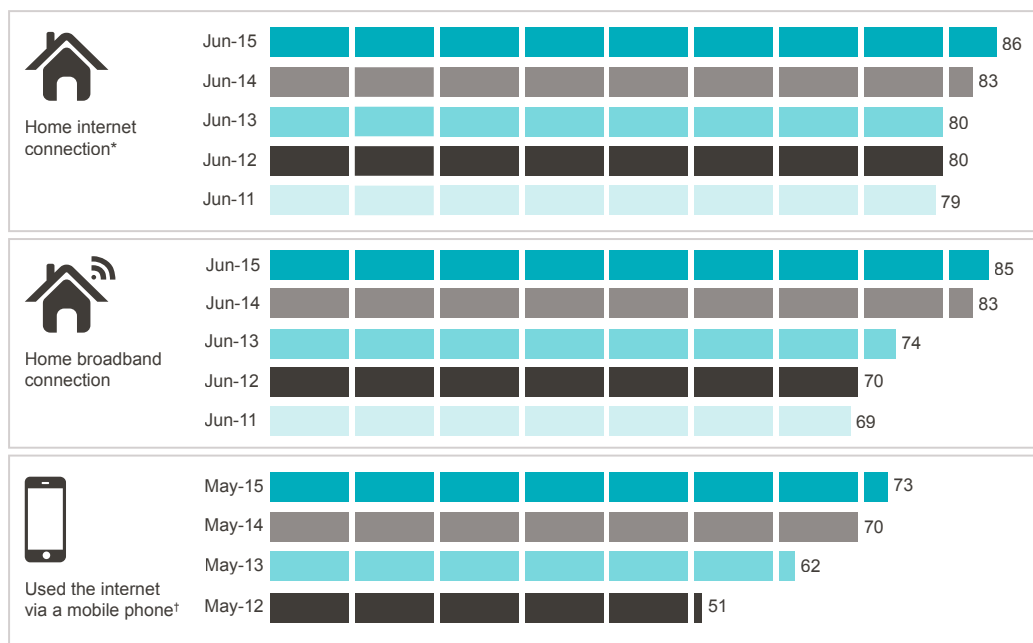
Connectivity—take-up of the internet

Internet access is available to Australians via a range of networks, devices and locations. In the six months to May 2015, 92 per cent of adult Australians accessed the internet, unchanged from the previous year. The rate of internet use is above 90 per cent among all adults under 65, and drops to 69 per cent for those aged 65 and over.¹

While evidence indicates the levels of internet access are stabilising, the intensity of Australians' digital engagement continued to develop through the use of increasing numbers of devices to connect to the internet, including growth in the number of portable devices used to access the internet (Figure 2.1):

- > approximately 86 per cent of Australians (15.8 million) have an internet connection in the home, up three percentage points on last year's figure
- > 85 per cent (15.7 million) of Australians have a home broadband connection. This figure has increased by two percentage points since last year, and reflects that almost all home internet connections are now broadband
- > 73 per cent (13.2 million) of Australians accessed the internet via their mobile phone, an increase of three percentage points since May 2014
- > the number of people accessing the internet via a tablet grew to 53 per cent at May 2015 to reach 9.7 million adult Australians (up three percentage points on the previous year)
- > the mobile phone is now on par with the laptop computer as the most often used device to access the internet.

Figure 2.1 How consumers access the internet (percentage)



*Includes ADSL, cable, fibre, satellite, fixed wireless, mobile wireless internet services—using dongles, datacards or USB modems. It excludes mobile handset internet.

†Relates to use of the internet via a mobile phone handset in the six months to May. Data not available prior to May 2012.

Base: Australians aged 18 and over.

Notes: June 2014 data for Home internet connection and Home broadband connection have been updated from the 2013–14 Communications report due to a change in methodology by Roy Morgan. June 2014 and June 2015 broadband definitions include; ADSL, cable, nbn, USB modem, portable Wi-Fi modem, SIM card for tablet, internet key. June 2014 and June 2015 internet definitions include; ADSL, cable, nbn, USB modem, portable Wi-Fi modem, SIM card for tablet, internet key and dial-up.

Source: Roy Morgan Single Source (Home internet connection and Home broadband connection), in the 12 months to June of each year and ACMA-commissioned survey (used the internet via a mobile phone).

Offline Australians

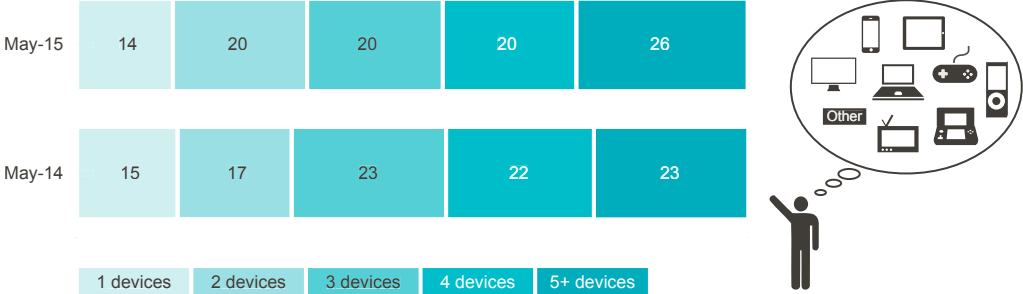
While 92 per cent of adult Australians accessed the internet in the six months to May 2015², an estimated 1.1 million (six per cent) had never been online (as at June 2015).³ This has remained unchanged from June 2014, though represents a significant drop from five years ago, when the figure was 12 per cent.

2.3 Accessing communications services

Variety of internet access devices

Australians are increasingly using more communications devices to go online. In the six months to May 2015, 26 per cent of internet users accessed the internet via five or more devices, compared to 23 per cent in the six months to May 2014 (Figure 2.2).

Figure 2.2 Number of devices used to access the internet, in the six months to May (percentage)



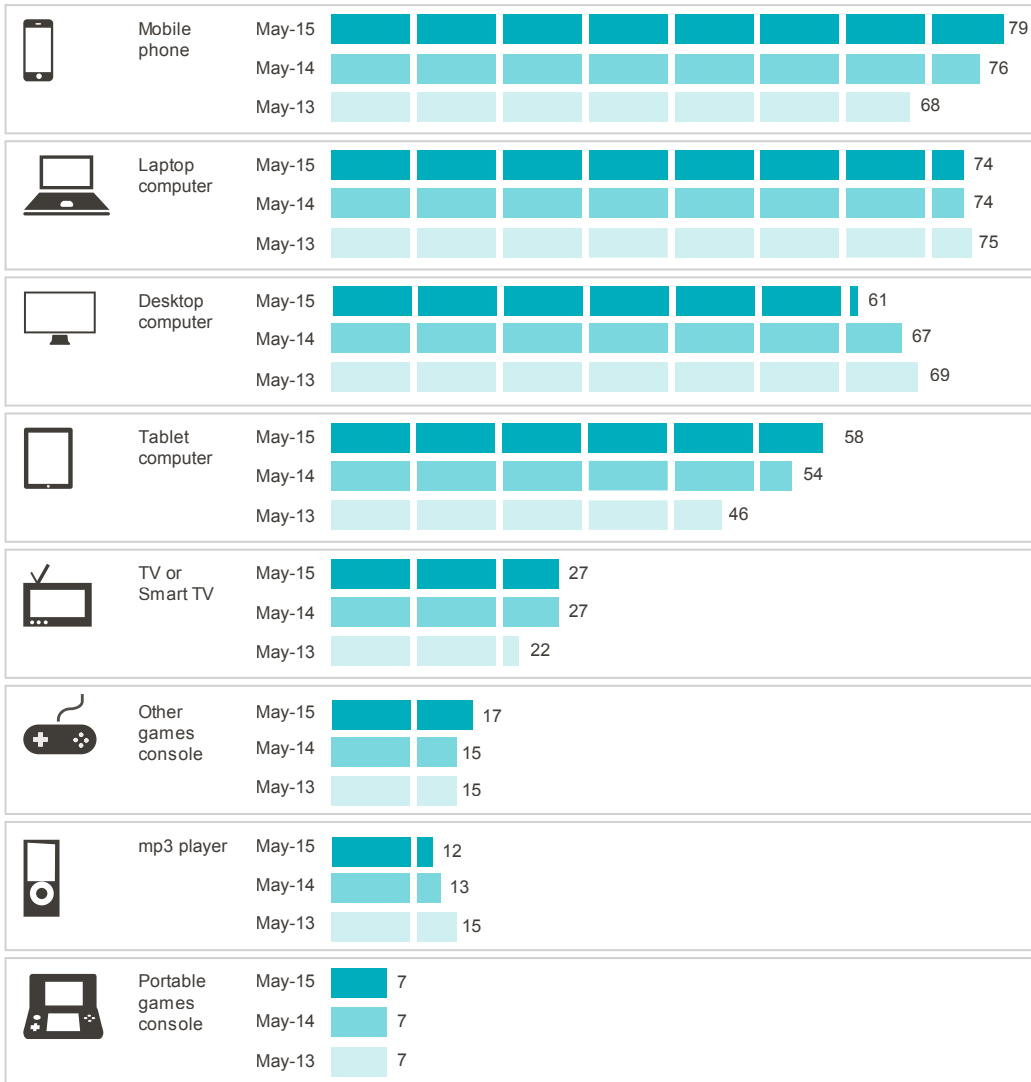
*Base: Australians aged 18 and over who accessed the internet.
 Source: ACMA-commissioned survey, May 2014 and 2015.*

Diversification of consumer internet access devices

As illustrated in Figure 2.3, online Australians have a number of devices to choose from to access the internet. As at May 2015, mobile phones continued to be the most popular device used to go online (79 per cent of adults), followed by laptop computers (74 per cent), desktop computers (61 per cent) and tablet computers (58 per cent).

The largest increase was observed in the use of tablets and mobile phones to go online, which grew by four and three percentage points, respectively, in the year to May 2015. This growth has occurred at the expense of desktop computers, which declined by six percentage points from May 2014.

Figure 2.3 Devices used to access the internet in the six months to May 2015 (percentage)



Base: Australians aged 18 and over who accessed the internet.

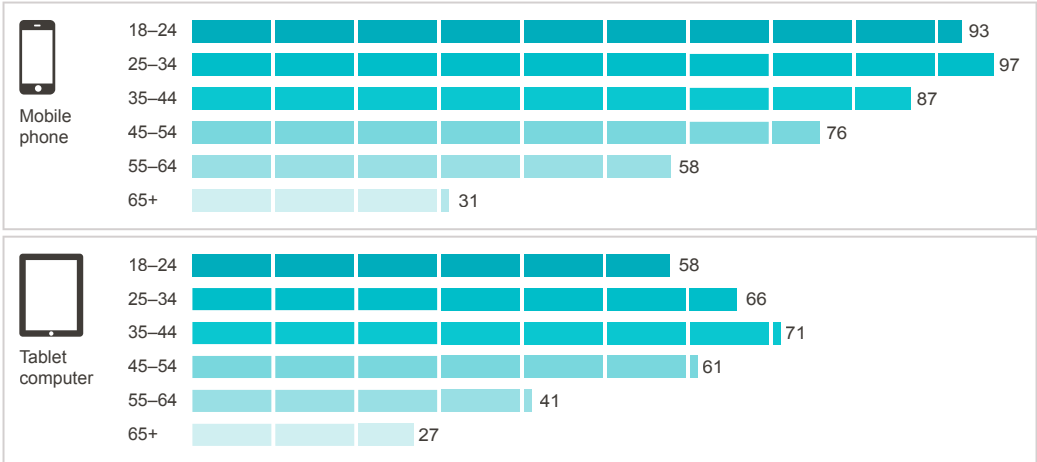
Source: ACMA-commissioned surveys, May 2013, 2014 and 2015.

A mobile phone and laptop are now on par as the most often used devices to access the internet. In the six months to May 2015, 28 per cent of adult Australians said a mobile phone was the device used most often for accessing the internet, while 28 per cent used their laptop.

While a mobile phone is a popular internet access device for younger people, particularly those aged 18 to 44, it was the least-preferred internet access device for older Australians, particularly those aged 65 and over (Figure 2.4). Nonetheless, a year-on-year increase in mobile phone use was seen across all age groups.

Although mobile phones were preferred to tablets as internet access devices across all age groups, tablets were especially popular for internet access among Australians aged 25 to 54. This age group also showed the strongest growth in tablet internet use over the last two years.

Figure 2.4 Portable internet access devices by age, six months to May 2015 (percentage)



Base: Australians aged 18 and over.

Note: Relates to the use of devices to access the internet in the six months to May 2015.

Source: ACMA-commissioned survey, May 2015.

Volume of data downloaded continues to increase

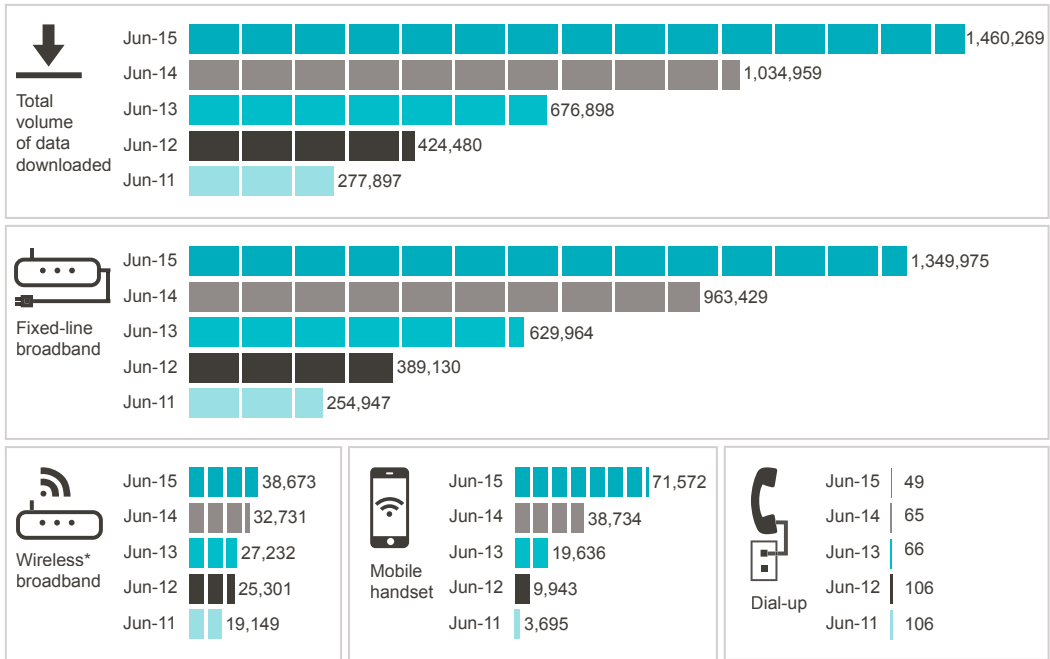
While the take-up of mobile phones has been steady over the previous year, and the growth in take-up of internet services has slowed in recent years, the amount of data Australians consumed via these services is increasing significantly, particularly over mobile handsets.

The total volume of data downloaded in Australia during the June quarter of 2015 was 41 per cent higher than the volume downloaded during the June quarter of 2014 (Figure 2.5).

There is sizeable growth in data downloaded by fixed-line broadband users, with fixed connections generally offering fast download speeds and large data plans, contributing to 91 per cent of total growth during the June quarter to 2015. During the June quarter to 2015, the volume of data downloaded over:

- > wireless broadband increased by 18 per cent
- > mobile handsets increased by 85 per cent
- > fixed-line broadband increased by 40 per cent
- > dial-up decreased by 25 per cent.

Figure 2.5 Volume of data downloaded by Australian internet users in the quarter to June (terabytes)



*Excludes downloads via mobile phone handsets. Includes mobile wireless services using dongle, USB modems and datacards, satellite, and fixed wireless.

Note: Total volume of data downloaded is based on ABS published numbers and components may not add up due to rounding. The ABS reports that ‘... download data presented should only be considered an indicative measure of internet activity during the reference period.’

Source: ABS, 8153.0—Internet Activity, Australia, June 2015.

During the June quarter of 2014–15, fixed-line broadband subscribers were downloading, on average, over 30 times the amount of data compared to wireless broadband subscribers, and over 60 times that of mobile handset internet subscribers. During this period, the average amount of data downloaded by a subscriber over:

- > fixed-line broadband increased by 34 per cent to 207 gigabytes
- > mobile handset internet increased by 79 per cent to 3.4 gigabytes.

Data allowance—mobile and tablet

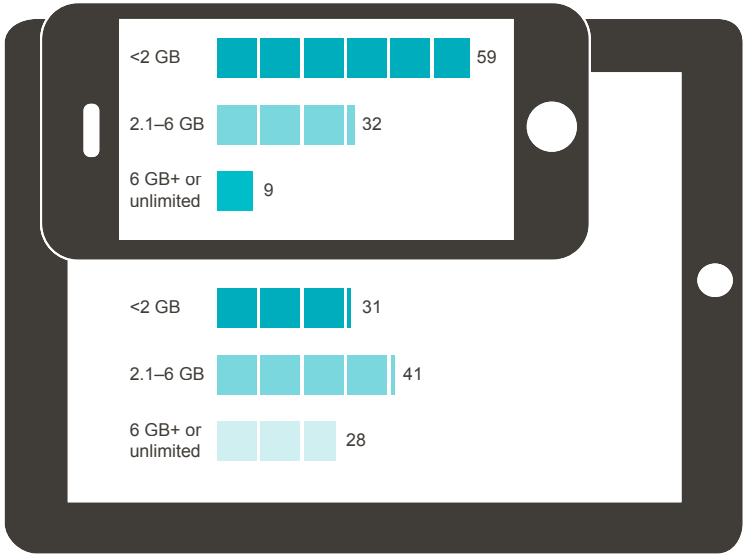
As noted above, Australians continued to download more data, with particularly strong growth in data downloads over mobile phone handsets.

Mobile devices are entrenched in the lives of most Australians—94 per cent of adults use these portable devices to either send text messages or make calls. More than half (55 per cent) own or use a tablet.⁴

In terms of monthly data allowance, for the majority of mobile phone users with a data plan, the allowance is less than two gigabytes (59 per cent). Only a small proportion of mobile phone users has an allowance of more than six gigabytes, or an unlimited allowance (nine per cent).

A different pattern was observed among tablet users with a data plan. A larger proportion reported that they had a higher data allowances on their tablets, in comparison to mobile phone users. More than a quarter (28 per cent) of tablet users had an allowance of over six gigabytes, or an unlimited allowance (Figure 2.6).

Figure 2.6 Monthly data allowance on a mobile phone and tablet, May 2015 (percentage)



Base: Australians aged 18 and over with a monthly data allowance on their: mobile phone (n=979), tablet's broadband plan (n=111).

Note: 'Don't knows' are excluded from both categories.

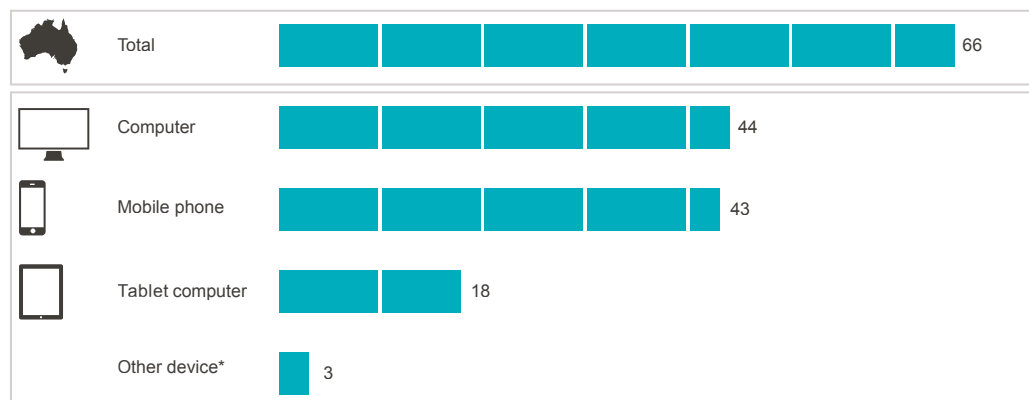
Source: ACMA-commissioned survey, May 2015.

Frequency of internet use

The majority of adult Australians are frequent internet users and access the internet several times a day—12.2 million (66 per cent) went online three or more times a day as at June 2015.

As illustrated in Figure 2.7, computers and mobile phones were commonly used to access the internet three or more times a day (44 and 43 per cent, respectively). However, a comparatively smaller proportion of people use tablets this frequently (18 per cent).

Figure 2.7 Australians accessing the internet three or more times a day, June 2015 (percentage)



*Other device' may include Smart TV or Xbox.

Base: Australians aged 18 and over.

Source: Roy Morgan Single Source, June 2015.

Australians' diverse use of communications services

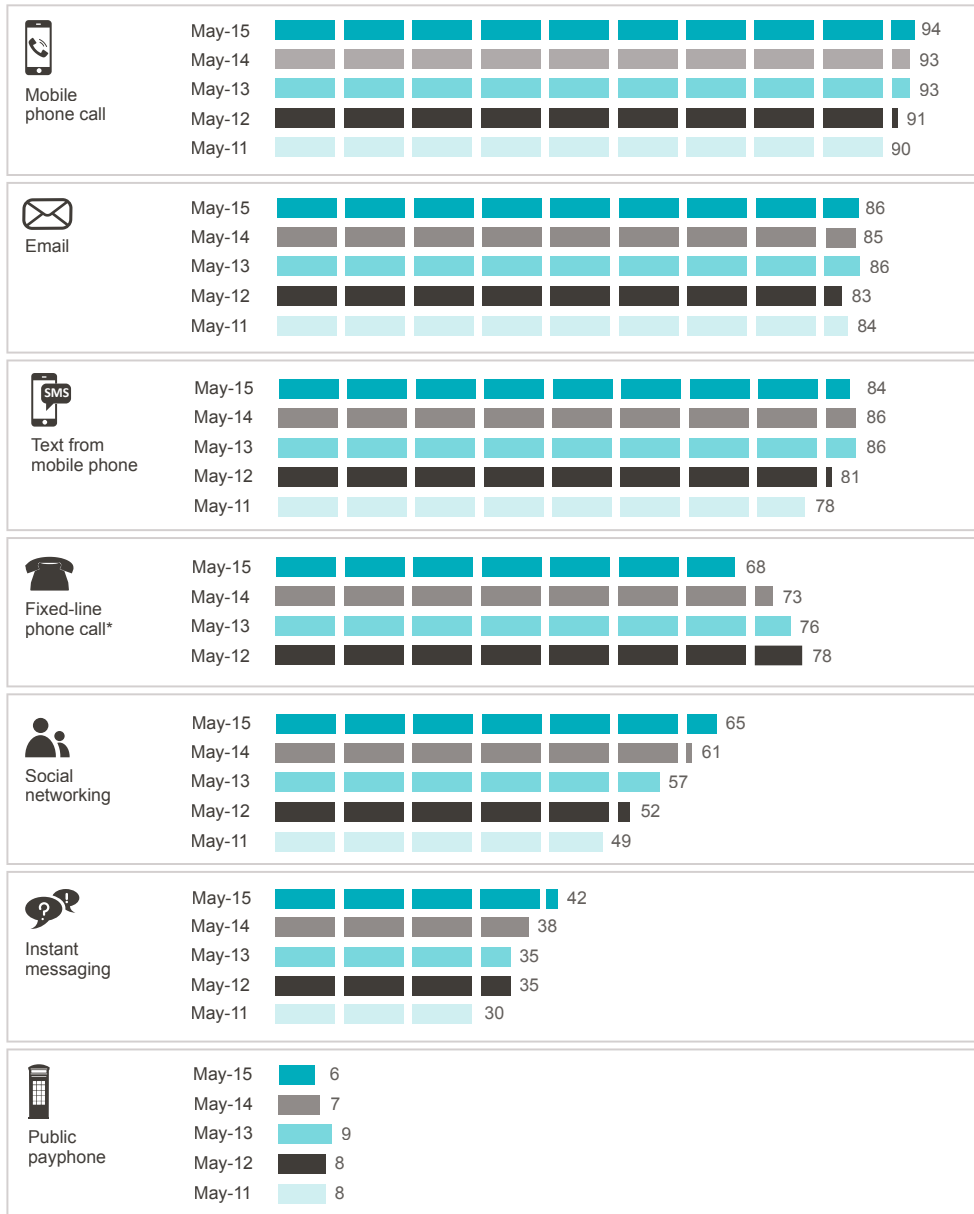
Australians use a diverse range of communications services to fulfil their needs, most combining multiple communications technologies and services to provide flexibility to use services at any time and any place.

Mobile phone calls continued to be at the forefront of consumer communications activity. At May 2015, 94 per cent of adult Australians said they had used a mobile phone to make a phone call in the last six months while 86 per cent of adult Australians used email. Eighty-four per cent sent an SMS from their mobile handset.

Over-the-top (OTT) communications services such as Facebook and Twitter have shown strong and consistent growth over the past four years. At May 2015, 65 per cent of adults had used social networking communications services and 42 per cent of adult Australians had used instant messaging in the previous six months, an increase of four percentage points on the same period last year.

Conversely, the use of fixed-line telephony continued to decline. At May 2015, 68 per cent of adult Australians (13.07 million) used a fixed-line telephone to make phone calls over the previous six months, down five percentage points from May 2014 (Figure 2.8).

Figure 2.8 Communications services used in the six months to May (percentage)



*Data not available prior to May 2012.

Base: Australians aged 18 and over.

Source: ACMA-commissioned surveys, May 2011, 2012, 2013, 2014 and 2015.

In the six months to May 2015, 64 per cent of consumers used five or more separate communications services, a similar figure to that seen in 2014.

Figure 2.9 Number of communications services used in the six months to May (percentage)



Base: Australians aged 18 and over.

Source: ACMA-commissioned surveys, May 2014 and 2015.

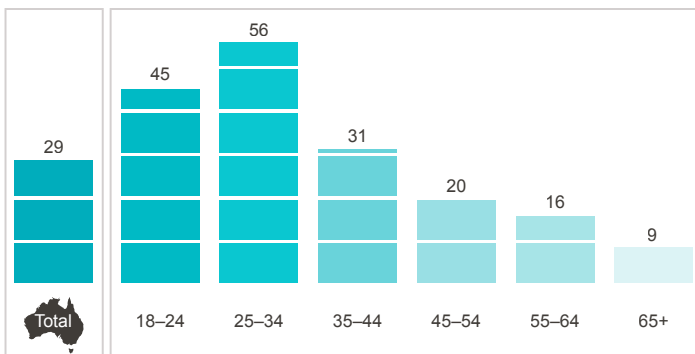
Mobile-only users

The mobile phone is increasingly at the centre of online interaction and communications, and its growing popularity has resulted in an increased proportion of Australian adults (29 per cent) having only a mobile phone and no fixed-line telephone at home (mobile-only).

At June 2015, mobile-only use was most prevalent among adults aged 25 to 34, with 56 per cent of this age group using only a mobile phone and having no fixed-line telephone at home. Those aged 18 to 24 showed the next largest prevalence, with 45 per cent of this group being mobile-only users (Figure 2.10).

Older Australians continued to use fixed-line telephones, particularly those aged 65 and over—just nine per cent are mobile-only.

Figure 2.10 Mobile-only users, by age, June 2015 (percentage)



Base: Australians aged 18 and over.

Note: Relates to users of a mobile phone but no fixed-line telephone at home for the 12 months to June 2015.

Source: Roy Morgan Single Source, June 2015.

2.4 Use of communications services

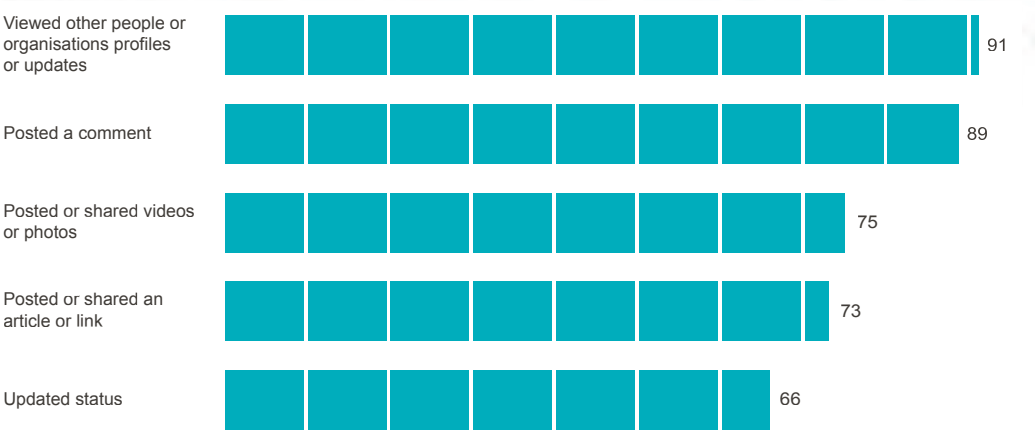
Social networking activities

The majority of online Australians aged 18 and over (72 per cent) use social networking sites (for example, Facebook) and the prevalence is directly linked to age. In the six months to May 2015, almost

the entire group of internet users aged 18 to 24 used social networking sites (99 per cent), compared to 34 per cent of internet users aged 65 and over. Females (76 per cent) are more likely to use social networking sites than males (68 per cent).⁵

Of those who use social networking sites, the majority (98 per cent) performed at least one of the specified social networking activities listed in Figure 2.11, with one in two (49 per cent) performing all five activities. Viewing others' profiles or updates and posting a comment were the two most popular activities.

Figure 2.11 Social networking activities in the six months to May 2015 (percentage)



*Base: Australians aged 18 and over who used social networking sites in the six months to May 2015 (n=1,183).
Source: ACMA-commissioned survey, May 2015.*

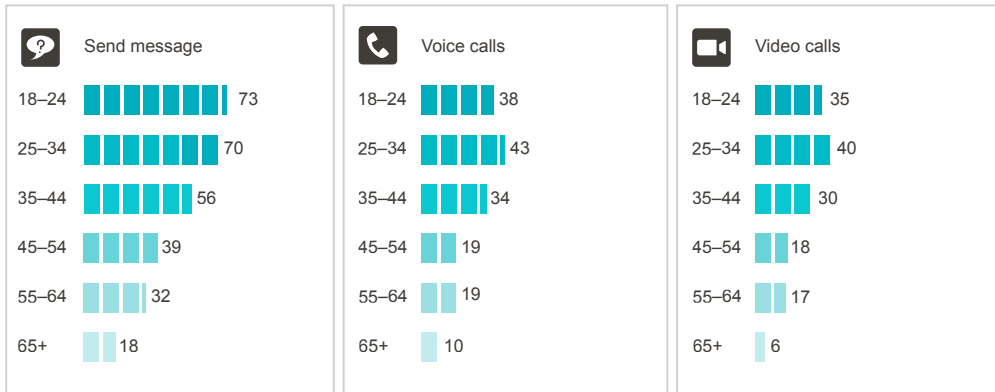
Communications apps

Fifty-four per cent (8.74 million) of online Australians had used an app to communicate with others online in the six months to May 2015. Those engaged in full-time or part-time work are significantly more likely to use communications apps (61 per cent) than those who are unemployed (39 per cent).

When using apps to communicate with others, Australians prefer to send messages (49 per cent). More than a quarter of online Australians also made voice calls (28 per cent) and video calls (25 per cent). Sixteen per cent of Australians engaged in all three activities.

Those aged 18 to 44 are the most active users of communications apps (Figure 2.12).

Figure 2.12 Use of communications apps, by activity and age, in the six months to May 2015 (percentage)



Base: Australians aged 18 and over who accessed the internet.

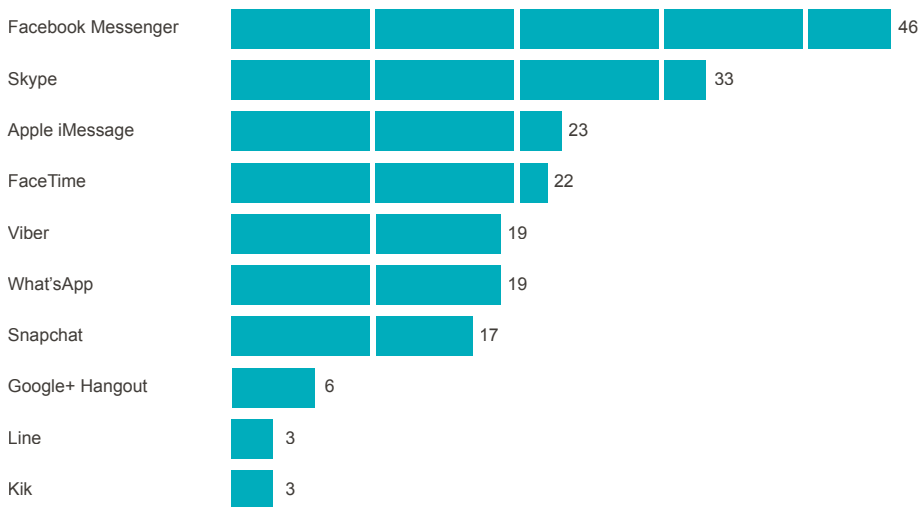
Source: ACMA-commissioned survey, May 2015.

What communications apps are in use?

Facebook Messenger is the most preferred communications app—46 per cent of online Australians use it to either send messages or make voice or video calls (Figure 2.13). Skype is the next preferred, at 33 per cent, followed by Apple iMessage (23 per cent) and FaceTime (22 per cent).

The choice of app is influenced by age. Facebook Messenger is the most preferred communications app for those aged 18 to 54. Skype takes over as the most preferred for those aged 55 and over.

Figure 2.13 Top 10 communications apps used in the six months to May 2015 (percentage)

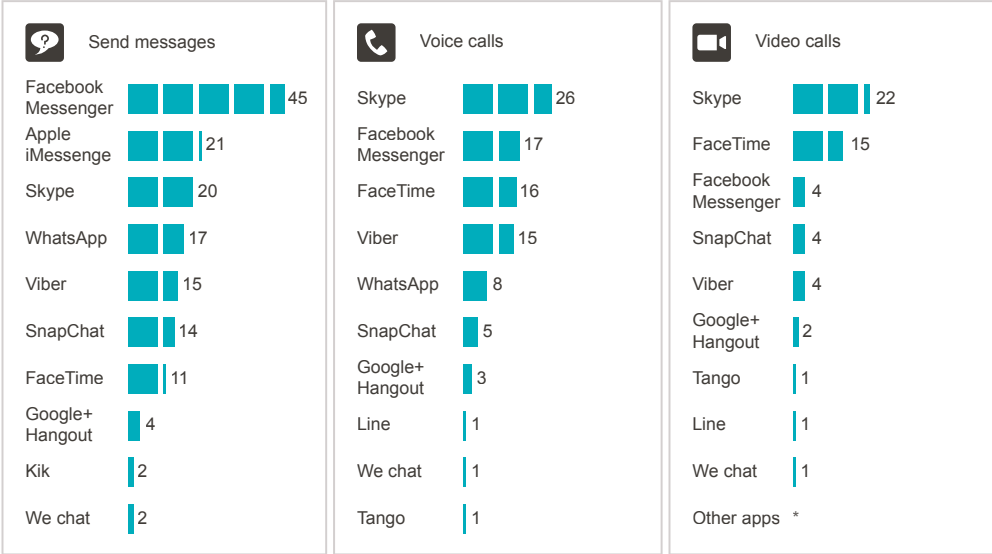


Base: Australians aged 18 and over who accessed the internet.

Source: ACMA-commissioned survey, May 2015.

At May 2015, Australians preferred to use different apps for different types of communications activities (Figure 2.14). Facebook Messenger was by far the most popular app to send messages, preferred by 45 per cent of online Australians. Skype was the most used app for voice and video calls—26 and 22 per cent, respectively.

Figure 2.14 Top 10 communications apps, by activity, in the six months to May 2015 (percentage)



*<0.5 per cent.

Base: Australians aged 18 and over who accessed the internet.

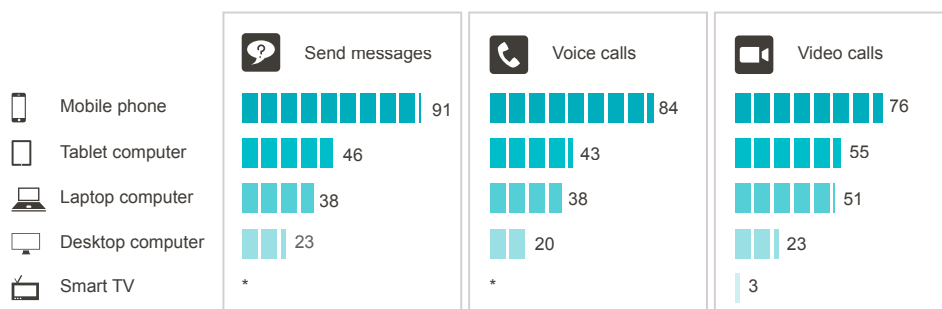
Source: ACMA-commissioned survey, May 2015.

What devices are used for apps?

Australians prefer to use a mobile phone when communicating with others using apps. It is the most preferred device for all three kinds of communications—voice calls, video calls and messages. Tablets are the next preferred device for communicating online via apps (Figure 2.15).

For adults under 65 years of age, the mobile phone is the most preferred device to make voice calls and send messages with apps. However, a different pattern is observed among those aged 65 and over—this age group almost equally prefers to use both a mobile phone and tablet for voice calls and messages with apps.

Figure 2.15 App use by device and communications activity in the six months to May 2015 (percentage)



*Data not applicable.

Base: Australians aged 18 and over who undertook the following activity: send messages (n=1,015), voice calls (n=757), video calls (n=497).

Source: ACMA-commissioned survey, May 2015.

Performing activities online

Further confirmation of Australians' growing online engagement is reflected in the number of activities undertaken online and high levels of take-up of a range of activities.

At June 2015, half of Australia's adult population (50 per cent) undertook five or more online activities in the previous four weeks.⁶ Australians continued to participate in a range of diverse online activities in significant proportions with more than 50 per cent of online Australian adults using the internet to:

- > access video content (66 per cent)
- > buy or sell goods or services (60 per cent)
- > work or study from home (59 per cent).

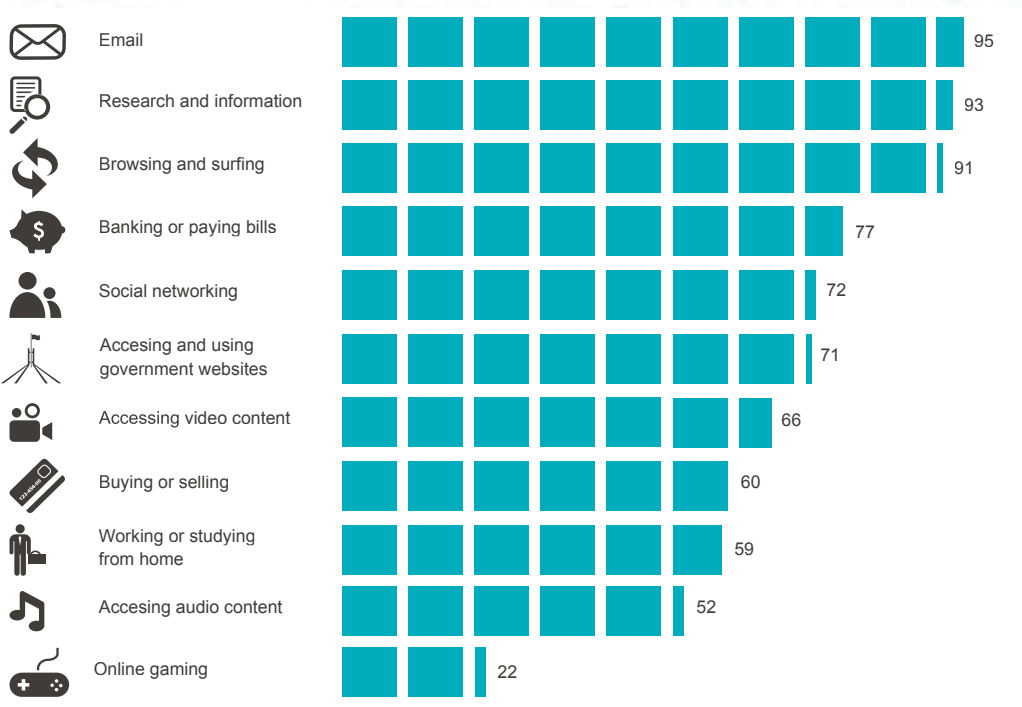
Fifty-two per cent of Australians (8.73 million) accessed audio online in the previous four weeks.

Figure 2.16 shows that the three most popular online activities for Australian adult internet users at May 2015 were sending and receiving email (95 per cent), using the internet to research or gather information (93 per cent), and general internet browsing (91 per cent). These traditional online activities indicate generally high levels of engagement across all age groups. Almost nine in 10 (88 per cent) internet users aged 65 and over communicated using email—this represents 2.1 million people (at May 2015).

Seven in every 10 online Australians, or more, used the internet to:

- > access government websites (71 per cent)
- > use social networking sites (72 per cent)
- > do banking or pay bills (77 per cent).

Figure 2.16 Performing activities online, six months to May 2015 (percentage)



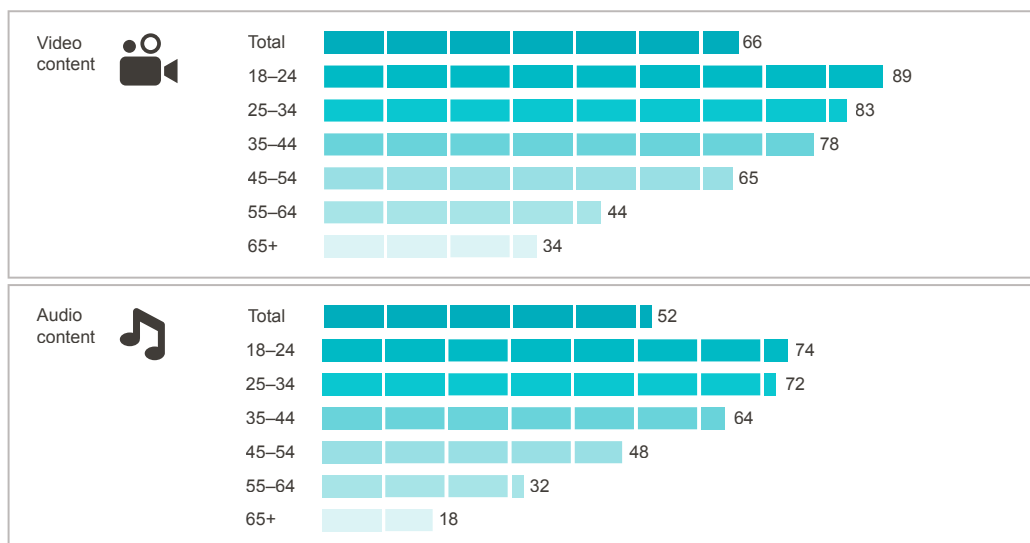
*Base: Australians aged 18 and over who accessed the internet.
 Source: ACMA-commissioned survey, 2015.*

Online audio and video

While traditional free-to-air television continues to dominate content viewing, the way Australians access video and audio content is changing, with many now accessing a broader range of content at a time that suits them.

As shown in Figure 2.17, two-thirds of online Australian adults accessed online video content and more than a half listened to audio content online. These activities are directly proportional to age. The vast majority of young people aged 18 to 24 accessed video content online (89 per cent). This dropped to 34 per cent for those aged 65 and over. A similar pattern of diminishing participation with age was also observed in accessing audio content online.

Figure 2.17 Accessing online video and audio content, by age, in the six months to May 2015 (percentage)



Base: Australians aged 18 and over who accessed the internet.

Note: 'Accessing video content' refers to downloading or streaming video. 'Accessing audio content' refers to downloading or streaming audio.

Source: ACMA-commissioned survey, May 2015.

More detail on online access to audio and video content can be found in the next chapter.

Growth in e-commerce activity

The latest available data from the ABS shows that Australian businesses generated an estimated \$266.8 billion in revenue from the online sales of goods and services during 2013–14. This is a \$20 billion increase on revenue received in 2012–13.⁷

Growth in e-commerce activity was also reflected in the increase in the number of Australians who undertook online transaction activities. In the six months to May 2015, an estimated 13.9 million people (77 per cent of the adult population) went online to conduct banking, pay bills, or buy and/or sell goods and services.⁸

Contactless tap-and-go payments are gaining popularity among Australian shoppers with contactless payment transactions multiplying monthly and retailers rolling out tap-and-go terminals to cope with the demand.⁹

An international study found that, in 2015, Australia had the highest proportion of consumers who had made a contactless tap-and-go purchase (53 per cent), ahead of Singapore (45 per cent), Taiwan (41 per cent) and Canada (37 per cent). Drivers for the take-up of this payment method include security, speed and convenience.¹⁰

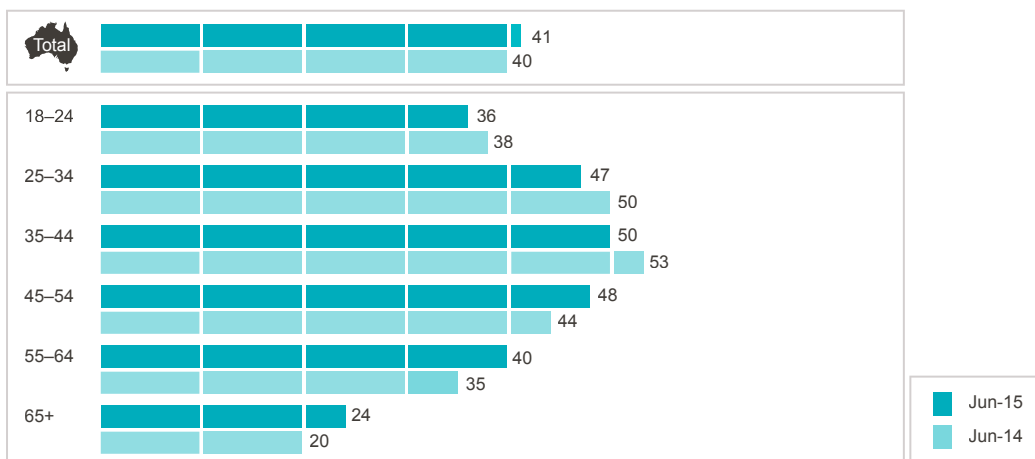
Online buying, selling and shopping

Many Australians are active participants in the online economy. In the four weeks to June 2015, 7.6 million adult Australians (41 per cent) made a purchase or sold something online—up one percentage point from June 2014. The most preferred device for these online activities is a laptop or desktop (34 per cent), followed by a mobile phone (12 per cent) and a tablet (eight per cent).¹¹

Those living in capital cities are much more likely to buy online (43 per cent) than people in country areas (36 per cent).

As illustrated in Figure 2.18, those aged between 25 and 54 were most likely to be online shoppers, while the largest increase in online shopping was seen in those aged 45 and over. However, there is some indication that the popularity of online shopping among 18 to 44-year-olds is plateauing.

Figure 2.18 Online buying, selling and shopping, by age (percentage)



Base: Australians aged 18 and over.

Note: Relates to transactional buying, selling and shopping activities undertaken online in the last four weeks to June 2015.

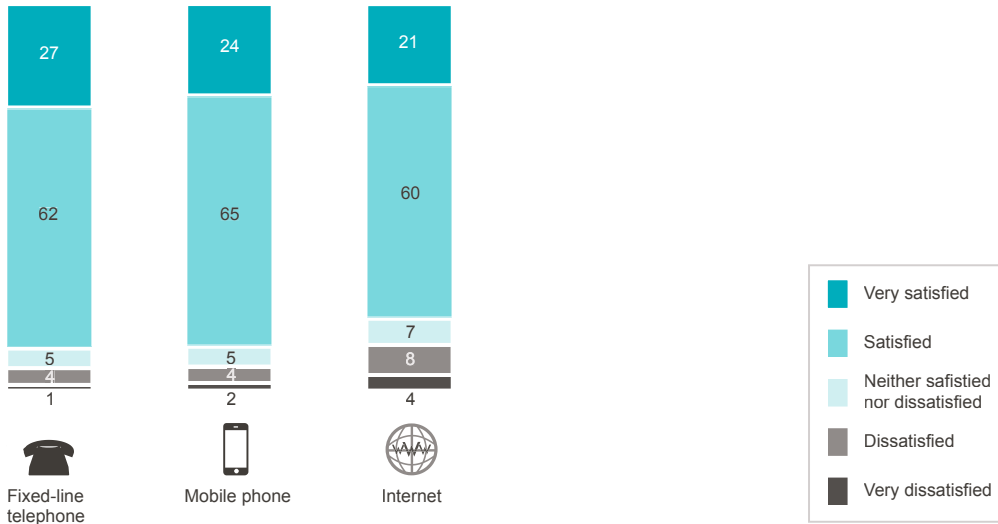
Source: Roy Morgan Single Source, June 2014 and 2015.

2.5 Consumer satisfaction with communications services

Figure 2.19 shows that the majority of Australians are generally satisfied with their communications services. The highest levels of satisfaction—those that reported being satisfied or very satisfied—are seen for fixed-line telephone and mobile phone services (both 89 per cent).

Internet services had the highest levels of dissatisfaction with 12 per cent either dissatisfied or very dissatisfied.

Figure 2.19 Overall satisfaction with communications services (percentage)



Base: Australians aged 18 years and over using a fixed-line telephone (n=1,258), mobile phone (n=1,708), internet (n=1,567).

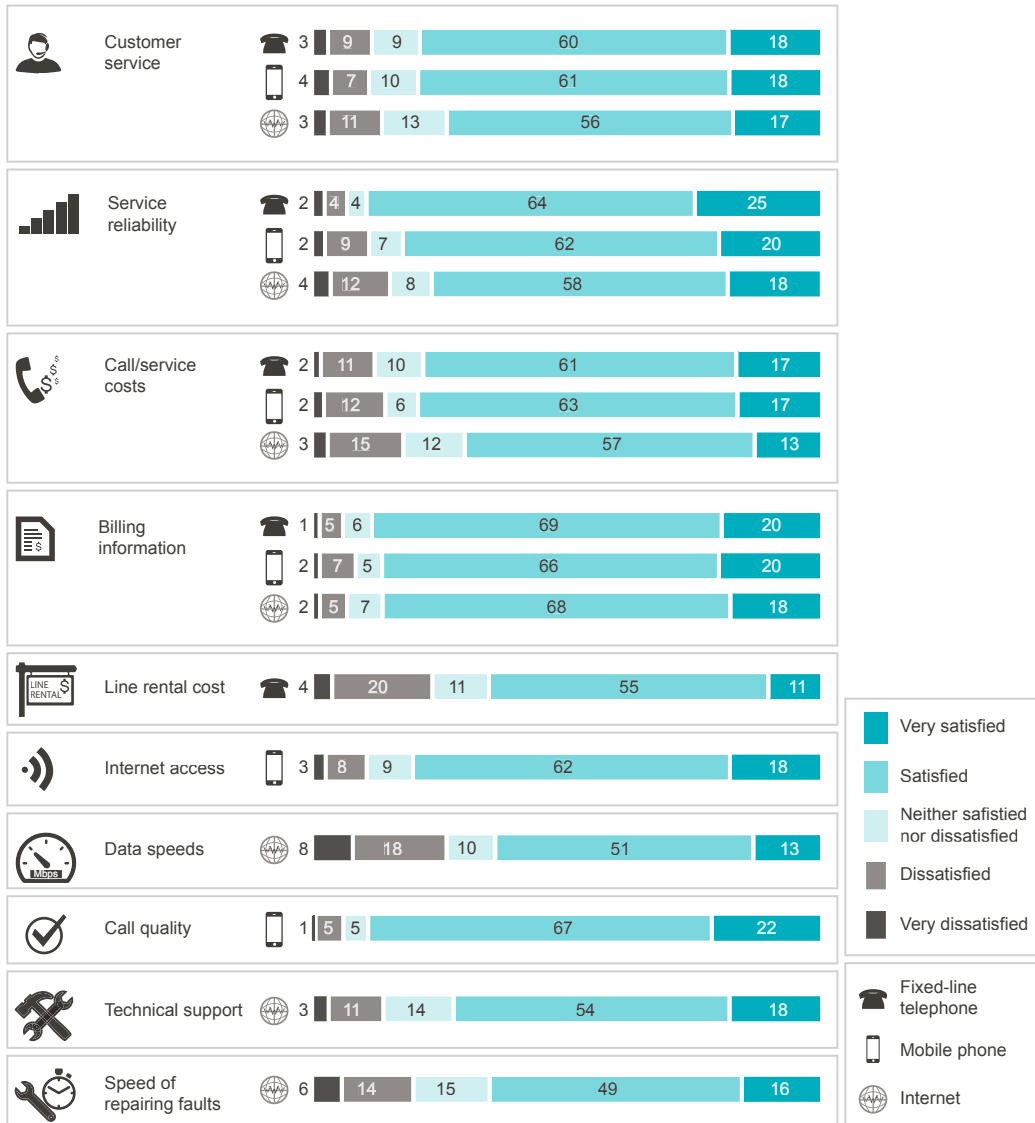
Note: Numbers may not add up due to rounding. Excludes 'don't know' responses.

Source: ACMA-commissioned survey, May 2015.

Satisfaction with different aspects of communications services is outlined in Figure 2.20. The highest levels of satisfaction (very satisfied and satisfied) and dissatisfaction (very dissatisfied and dissatisfied) within each service were as follows:

- > **Fixed-line service**—the highest levels of satisfaction were for service reliability (89 per cent satisfied or very satisfied). Line rental cost recorded the highest levels of dissatisfaction (24 per cent dissatisfied or very dissatisfied). However, this figure has decreased significantly from last year, when 31 per cent were dissatisfied with line rental costs.
- > **Mobile phone**—service reliability (82 per cent) recorded the highest levels of satisfaction, while call/service costs (14 per cent) recorded the highest levels of dissatisfaction. However, this figure has decreased six percentage points from last year.
- > **Internet**—service reliability (76 per cent) recorded the highest levels of satisfaction, while data speeds (26 per cent) recorded the highest levels of dissatisfaction.

Figure 2.20 Consumer satisfaction with aspects of their communications services (percentage)



Base: Australians aged 18 years and over using a fixed-line telephone (n=1,258), mobile phone (n=1,708), internet (n=1,567).

Notes: Numbers may not add up due to rounding. Excludes 'don't know' responses.

Source: ACMA-commissioned survey, May 2015.

2.6 International trends

Internationally comparable data that is currently available allows a broad-level comparison of the availability of communications services, internet adoption levels, and device take-up and usage across Australia, the United States (US) and the European Union (EU).

Communications services




The Australian experience of the rise of mobile-only households in recent years is also reflected in other countries.

- > 16 per cent of the population in the United Kingdom (UK) were living in a mobile-only household (quarter two 2014), the same figure as last year¹²
- > 84 per cent of households in the UK had a fixed-line telephone at July 2014, a figure which has remained static since last year¹³
- > 44 per cent of American homes had only wireless telephones at home (cellular telephone, cell phone, or mobile phone)¹⁴, according to research undertaken by National Health Interview Survey (NHIS) during the first half of 2014
- > just over three in 10 households in the EU (31 per cent) had only mobile telephone access, with no fixed telephone access (January 2014).¹⁵

Access to the internet

Table 2.1 suggests that Australia has similar or higher levels of general and mobile phone internet users in comparison to the US and the UK. Australia also has a higher percentage of consumers with a home broadband connection. The most recent US data available from the Pew Research Center indicates that, in 2013, 70 per cent of US households had a home broadband internet connection.¹⁶

Table 2.1 International trends in access to the internet (percentage)

						
	Home broadband connection		Use mobile phone to access the internet		Use the internet	
	2014	2015	2014	2015	2014	2015
Australia	83	85	70	73	92	92
US ¹⁷	n/a	n/a	58*	64*	84	84
UK ¹⁸	77	80	57	61	82	85
EU	60	n/a	52	n/a	78	n/a

*Relates to the use of smartphone.

Note: Data for the UK and EU about home broadband connection relates to households. UK data collected in January/February. EU data collected in January. Australian data for 'Use the internet' and 'Use mobile phone to access the internet' relates to six months to May; 'Home broadband connection' relates to 12 months to June. Months for US data have not been specified.

Australian and US data refers to total population aged 18 and over. UK data refers to people aged 16 and over. EU data for 'Use the internet' refers to households with at least one person aged 16 to 74 who used the internet in the three months prior to the survey.

Sources: Data relating to Australia—Roy Morgan Single Source June 2014 and 2015 (Home broadband connection), and ACMA-commissioned survey May 2014 and 2015 ('Use the internet' and 'Used mobile phone to access the internet'); UK—Ofcom; US—Pew Research Center; EU—Eurobarometer ('Home broadband connection' and 'Used mobile phone to access the internet') and Eurostat ('Use the internet').

Internet access devices

Increased reliance on mobile devices to access the internet is also evident in other countries:

- > 64 per cent of adult Americans owned a smartphone at October 2014, an increase of six percentage points from 2013¹⁹
- > 15 per cent of Americans who own a smartphone say that they had a limited number of ways to get online other than their phone²⁰
- > 66 per cent of adults in the UK owned a smartphone at November 2014, an increase of 10 percentage points from 2013²¹
- > tablet ownership in the UK in early 2015 rose to 54 per cent, a 44 per cent increase from quarter one 2014.²²

Activities performed online







Greater access to the internet and fast and reliable broadband services in Australia has facilitated:

- > more frequent internet use
- > growth in data downloaded
- > an increase in the number of activities undertaken online
- > changing behaviours in the ways Australian internet users engage in day-to-day activities in an online environment.

Similar online behaviours are evident internationally, as reflected by the growth in the range of activities undertaken online (Table 2.2). For example, popular online activities in the UK not only included activities

such as internet browsing (97 per cent) and sending email (94 per cent), but also social networking (75 per cent) and accessing government services (78 per cent).²³

Table 2.2 International comparisons—activities performed online (Australia and UK)

	Australia—Online aged 18 and over (%)	UK ²⁴ —Online aged 16 and over (%)
 Email	95	94
 Browsing and surfing	91	97
 Banking/paying bills	77	68
 Social networking	72	75
 Accessing government websites	71	78
 Playing games	22	42

Base: Australia: internet users aged 18 and over; UK: internet users aged 16 and over.

Note: Australian data relates to performing activities online in the six months to May 2015.

UK (Ofcom) data was collected October to November 2014 and covers all adults aged 16 and over who go online at home or elsewhere.

Source: Australian data: ACMA-commissioned survey, May 2015. UK data: OfCom, Adults' media use and attitudes Report 2015.

International comparisons—fixed broadband versus mobile internet penetration

Australia is one of the leaders in terms of mobile-internet penetration. Research by the Broadband Commission for Digital Development shows that, at December 2014, Australia was ranked:

- > 11th in terms of mobile-internet penetration per 100 inhabitants (out of 189 countries)
- > 39th in terms of fixed broadband penetration per 100 inhabitants (out of 189 countries).²⁵

Endnotes

¹ ACMA-commissioned survey, May 2015.

² *ibid.*

³ Roy Morgan Single Source, June 2015.

⁴ ACMA-commissioned survey, May 2015.

⁵ *ibid.*

⁶ Roy Morgan Single Source, June 2015.

⁷ ABS, 8166.0 – Summary of IT use and innovation in Australian Business, 2013–14, 18 June 2015.

⁸ ACMA-commissioned survey, May 2015.

⁹ News.com.au, Contactless tap-and-go payment gains popularity with Australian shoppers, 28 September 2014, <http://www.news.com.au/finance/money/contactless-tapandgo-payment-gains-popularity-with-australian-shoppers/story-e6frfmc1-1227073203032>, viewed 16 September 2015.

¹⁰ NFC World+, Australia leads the way for contactless ownership and usage, 13 May 2015,

<http://www.nfcworld.com/2015/05/13/335191/australia-leads-the-way-for-contactless-ownership-and-usage/>, viewed 16 September 2015.

¹¹ Roy Morgan Single Source, June 2015.

¹² OfCom, The Consumer Experience of 2014, 28 January 2015, http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-14/TCE14_research_report.pdf.

¹³ *ibid.*

¹⁴ National Health Interview Survey, Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January–June 2014, December 2014, <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201412.pdf>.

¹⁵ European Commission, 'Special Barometer 414', March 2014, http://ec.europa.eu/public_opinion/archives/ebs/ebs_414_en.pdf.

¹⁶ Pew Research Center, Broadband technology fact sheet, <http://www.pewinternet.org/fact-sheets/broadband-technology-fact-sheet/>, viewed 23 September 2015.

¹⁷ Pew Research Center, Americans' Internet Access: 2000–2015, 26 June 2015.

<http://www.pewinternet.org/2015/06/26/americans-internet-access-2000-2015/>, viewed 23 July 2015.

¹⁸ OfCom, The Communications Market Report, 6 August 2015, <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/>.

¹⁹ Pew Research Center, U.S. Smartphone Use in 2015, 1 April 2015,

http://www.pewinternet.org/files/2015/03/PI_Smartphones_0401151.pdf.

²⁰ *ibid.*

²¹ OfCom, Adults' media use and attitudes report 2015, May 2015, <http://stakeholders.ofcom.org.uk/market-data-research/other/research-publications/adults/media-lit-10years/>.

²² OfCom, Communications Market Report, 6 August 2015, <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/>.

²³ OfCom, Adults' media use and attitudes Report 2015, May 2015, <http://stakeholders.ofcom.org.uk/market-data-research/other/research-publications/adults/media-lit-10years/>.

²⁴ *ibid.*

²⁵ The Broadband Commission for Digital Development, The State of Broadband 2015: Broadband as a foundation for sustainable development, September 2015, <http://www.broadbandcommission.org/publications/Pages/SOB-2015.aspx>.

Chapter 3: Television, radio and online content developments

3.1 Overview

This chapter looks at developments in the delivery of audio and video content via traditional broadcasting means and using new communications services to inform discussion on the efficiency and adequacy of the supply of services. It covers radio (traditional, online and digital) and music streaming. It reports on video content viewing behaviours, and television ownership and viewing, along with subscription and online content, video downloading and streaming.

Information is also presented on the performance of broadcasters in meeting their regulatory obligations, the number of broadcasting-related complaints to the ACMA under broadcasting codes of practice and about prohibited and potentially prohibited online content under the *Broadcasting Services Act 1992* (BSA).

In summary:

- > the television screen remains the main way Australians watch video and paid online content while free video content is more likely to be watched on computers, tablets or mobile devices
- > on average, around 85 per cent of adult Australians in the five major capital cities watched at least five minutes consecutively of free-to-air television (live and time-shifted) each week. In the combined regional markets, the figure was 84 per cent¹
- > watching live free-to-air television represented the largest share (59 per cent) of average time spent watching television or video content (excluding pre-recorded DVDs) among adults
- > watching online content (catch-up TV, other free online video content, video content via a subscription service, or pay-per-view content) accounted for 16 per cent of time spent. Viewing of Foxtel and time-shifted content make up the remainder
- > the Australian launch of subscription video on demand services in the first three months of 2015, including Netflix, Stan and Presto TV, saw rapid consumer take-up in a short period of time—11 per cent of Australian adults had watched Netflix in a given week, as at June 2015
- > strong demand continued for streaming online video, with 17 per cent of Australian adults watching professional content on YouTube in a given week
- > fifty-three per cent of adults watched professional online video content in the last six months and 34 per cent in the last seven days, as at June 2015
- > three-quarters (74 per cent) of adults who had watched streaming video in the last seven days were satisfied overall with the technical quality. However, over half (53 per cent) reported having experienced a technical problem in the last seven days, as at June 2015
- > younger people (aged 18 to 24) spent the largest proportion of time viewing online content (56 per cent of all their professional video and television viewing) in the last seven days, as at June 2015
- > listening to the radio remains popular among adult Australians, with 86 per cent listening to some radio in an average seven-day period to June 2015. This is very similar to the previous three years, with a slight increase from 2011 and 2012
- > more people listened to digital radio each week in Sydney, Melbourne, Brisbane, Perth and Adelaide with almost 3.2 million in August 2015 compared to nearly 2.8 million listeners in August 2014
- > all free-to-air commercial television licensees met the Australian transmission quota and sub-quota requirements for drama, documentary and children's programs for the 2014 calendar year
- > amendments to captioning provisions in the BSA became effective from 20 March 2015, which saw improved administrative arrangements and increased flexibility for television services in complying with captioning obligations

- > all regional commercial radio and television broadcasting licensees broadcast the required amount of material of local significance
- > there was an 18 per cent increase to 4,801 in the number of complaints to the ACMA hotline for illegal and offensive online content.

3.2 Audio content

Radio—traditional and audio streaming

Australians access radio in multiple locations. ACMA research undertaken in June 2015 found that 78 per cent of adult Australians had a radio at home, and 92 per cent had a radio in their car. In total, 97 per cent had a radio, either at home, or in the car, or both.²

Eleven per cent of those surveyed had streamed local radio services over the internet, and five per cent had streamed an overseas radio station over the internet, in the last seven days.³

Younger Australians were more likely to have listened to online radio content, with 48 per cent aged 18 to 34 having done so in the last seven days, while only seven per cent of those aged 65 and over said they had.

According to the industry body Digital Radio Plus, at August 2015 there were almost 3.2 million people listening to digital radio each week in Sydney, Melbourne, Brisbane, Perth and Adelaide, compared to nearly 2.8 million listeners in August 2014.⁴

ACMA research indicates that 17 per cent of adults had used a streaming music service such as Spotify, Pandora or iTunes radio in the last seven days, and 24 per cent in the last six months. Nine per cent downloaded or listened to podcasts in the last week (17 per cent in the last six months).

Reach of radio

Listening to the radio remains popular with adult Australians, with 86 per cent listening to some radio in an average seven-day period to June 2015. This figure is very similar for the previous three years, with a slight increase from 2011 and 2012 (Figure 3.1).

Figure 3.1 Listening to radio, last seven days (percentage)



Base: Australians aged 18 and over.

Source: Roy Morgan Single Source.

3.3 Video content

Web-based services that offer viewers more choice are developing as a popular source of access to video content, complementing free-to-air and subscription television. Viewers, particularly younger viewers, appreciate being able to access content they want when they want it. Internationally, and in Australia, viewers are responding to the different service models offered through online video services.^{5 6 7} Australians' use of online video services is reflected in ACMA consumer survey data reported below.⁸

Household television sets

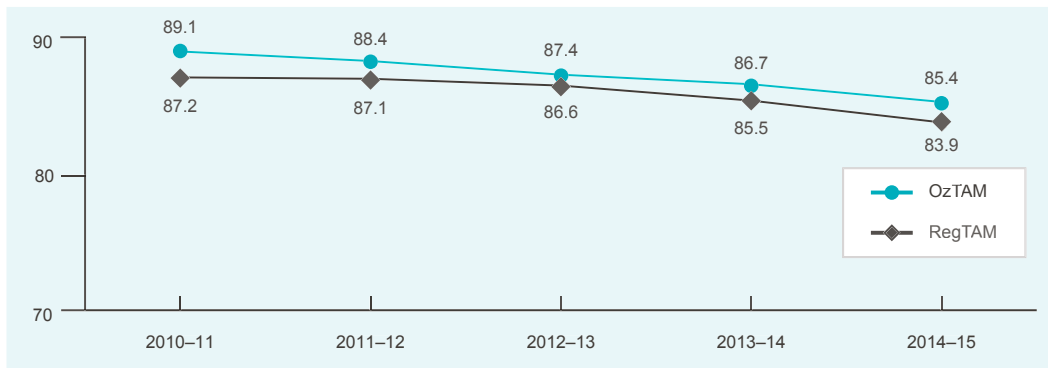
Ninety-four per cent of Australian households have at least one working television set, with an average of 1.9 sets per household. Around 40 per cent of television sets are smart TVs, although not all have been connected to the internet (27 per cent of all television sets are internet connected).⁹

During 2014–15, 85 per cent of adult Australians in the five major capital cities watched at least five minutes consecutively of free-to-air television (live and time-shifted) in an average week across the 2014–15 financial year.¹⁰

Reach of broadcast television

There has been a gradual decline in television viewing over the last five years, with 85 per cent of Australian adults in the five major cities watching at least five minutes consecutively of free-to-air television in an average week in 2014–15 compared to 89 per cent in 2010–11. Similarly, there was a drop from 87 per cent to 84 per cent over the same period in the combined regional television markets (Figure 3.2).

Figure 3.2 Free-to-air television viewing—average weekly cumulative reach (five minutes consecutive) in five city metropolitan and combined consolidated regional markets (percentage)



Base: People aged 18 and over in the five mainland metropolitan markets (Sydney, Melbourne, Brisbane, Adelaide and Perth) for OzTAM, and for the combined regional markets (Queensland, Northern NSW, Southern NSW, Victoria, Tasmania and Regional WA) for Regional TAM.

Source: ©OzTAM Pty Limited and Regional TAM Pty Limited 2015. Apart from any use permitted under the Copyright Act 1968, the data may not be reproduced, published or communicated (electronically or in hard copy) without the prior written consent of OzTAM and/or Regional TAM.

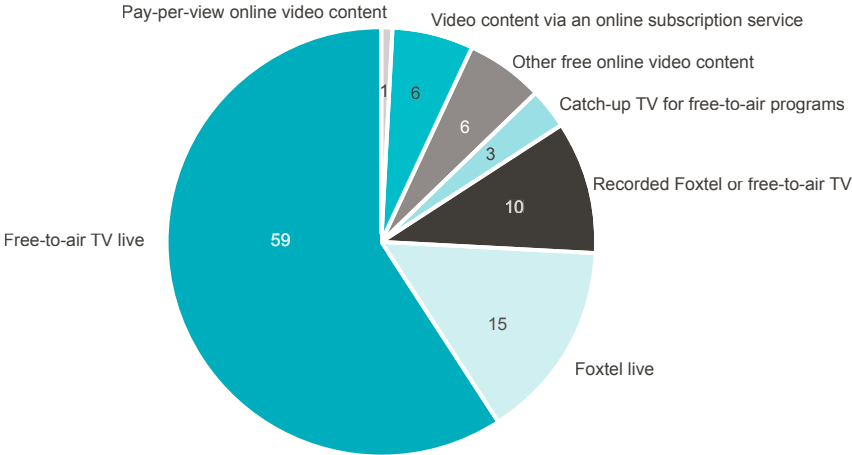
FOXTEL's subscriber numbers increased 8.6 per cent to 2.8 million in the financial year ending 30 June 2015.¹¹ Media reports suggest the increase was driven by reduced churn and an increased take-up of internet television services, including Presto.¹²

Time spent watching television and online content

Watching free-to-air television live represents the largest share (59 per cent) of the weekly average time spent watching television or video content (excluding pre-recorded DVDs) among Australian adults. Watching professionally produced online content (catch-up TV, other free online video content, video content via a subscription service, or pay-per-view content) accounted for 16 per cent of time spent, and Foxtel accounted for 15 per cent. Programs recorded from Foxtel or free-to-air television accounted for 10 per cent of time spent viewing (Figure 3.3).

Catch-up services continue to be popular—ABC's iView reported more than a million plays each day, up 30 per cent from last year.¹³

Figure 3.3 Share of time spent watching television (live or recorded) or professional online video content, in the last seven days (percentage)



*Base: Australians aged 18 and over.
 Note: 'Other free online video content' excludes user-generated content.
 Source: ACMA-commissioned survey, June 2015.*

Types of activities and devices used

Figure 3.4 shows that a television set remains the main way to watch video content, even online content, although free professional online video content (such as YouTube) is more likely to be watched on computers, tablets or mobile devices.

Figure 3.4 Use of devices for viewing different types of content (percentage)



Base: Australians aged 18 and over who watched: free-to-air live (n=1,160), Foxtel live (n=376), recorded Foxtel or free-to-air TV (n=428), catch-up TV for free-to-air programs (n=225), other free online video content (n=292), video content via an online subscription service (n=175).

Note: Data includes multiple responses. 'Other free online video content' excludes user-generated content.

Source: ACMA-commissioned survey, June 2015.

Internet video

As noted by a number of commentators, video is increasing as a proportion of total internet traffic and, according to Telstra, accounts for an average 50 to 60 gigabits for each subscriber per month in Australia.¹⁴ This is reported to be growing at three gigabits per month.¹⁵

The European Commission estimates that by 2019, based on Cisco Visual Networking Index figures, in the range of 80 to 90 per cent of global consumer traffic will be accounted for by internet video.¹⁶

Subscription video on demand (SVOD)

The first quarter of 2015 Australia saw the launch of several new SVOD services.

US streaming service Netflix launched in Australia in March 2015. Even before its local launch, Netflix already had an Australian following with reported estimates during 2014 of between 50,000 and 340,000 Australian subscriptions to the service.^{17 18 19 20}

Local service Presto Movies started in early 2014 as a movie-streaming service owned by Foxtel. In January 2015 it was relaunched in partnership with Seven West Media, owner of the Seven Network. The new Presto TV included television shows but was kept separate from Presto Movies, with a discount for subscribing to both services.

Foxtel offers a streaming service, Foxtel Play, delivering access to a variety of packages from \$25.

Stan, a joint venture between Fairfax Media and the Nine Network, was launched in January 2015 and has a similar subscription model to Netflix.

Originally similar to Netflix, Quickflix was founded in 2003 as a DVD letterbox delivery service, becoming an online streaming service in 2011. Quickflix's largest shareholder is Nine Entertainment, owner of the Nine Network.

Australian telecommunications providers are also operating in the SVOD market in different ways.

Telstra (half owner of Foxtel) recently announced a partnership with US streaming device maker Roku to provide a bundle of streaming services, including Presto, BigPond movies and Netflix, when the service launches later in 2015. Telstra previously offered the T-Box, which provided unmetered access to BigPond Movies and Presto. T-Box is being replaced by the new Roku service.

As well as reselling Foxtel services to its customers, Optus partners with Fetch TV. Fetch TV is an IPTV service, using a set top box that provides access to multiple channels of entertainment. Fetch TV also provides native support for Netflix.

Since the launch of Netflix, Stan, and the upgraded Presto service in early 2015, there have been mergers and the cessation of some services, such as EzyFlix in August 2015, that were unable to compete with the newer providers.

At July 2015, Roy Morgan Research estimated Netflix was in eight per cent of Australian homes, reaching 1.89 million people aged 14 and over.²¹ Homes with traditional subscription television (Foxtel) were also subscribing to Netflix at a similar rate—7.3 per cent of Foxtel homes also had a Netflix subscription. This research shows the growth of Netflix since its Australian launch has been rapid, from 419,000 homes in May 2015 to 737,000 in July 2015.

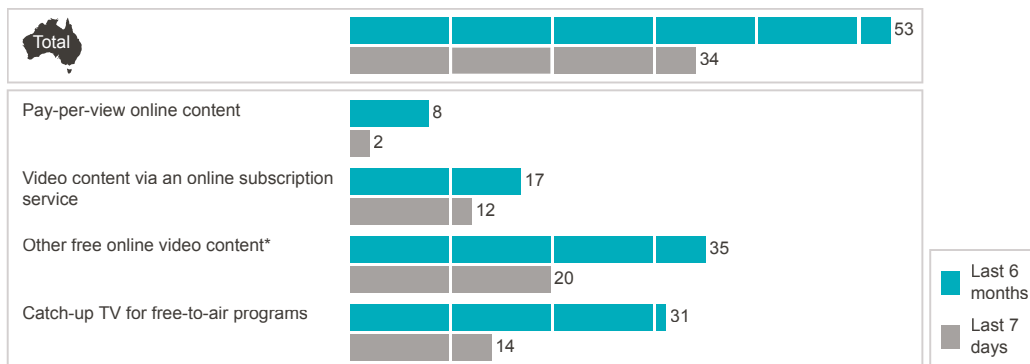
The launch of new SVOD services has been accompanied by a lowering in subscription video costs generally, with the most common monthly subscription for Netflix being \$11.99, and a starting cost of \$9.99. This is on a par with Stan's cost but less than the other Australian subscription video services, such as Presto's Entertainment (television plus films) plan.

Foxtel's basic subscription television package price was reduced to \$25 (for the Entertainment Pack plus Foxtel set top box and app) in 2014 ahead of the launch of Netflix, Stan and Presto TV in early 2015.

Both in Australia and internationally, SVOD and related video services are a fast-moving market.

Fifty-three per cent of adult Australians (9.62 million) watched some online television or professionally produced online video content in the six months to June 2015, with 34 per cent watching online content in the last seven days (Figure 3.5).

Figure 3.5 Online content watched in the last six months and last seven days (percentage)



*Excludes user-generated content.

Base: Australians aged 18 and over.

Source: ACMA-commissioned survey, June 2015.

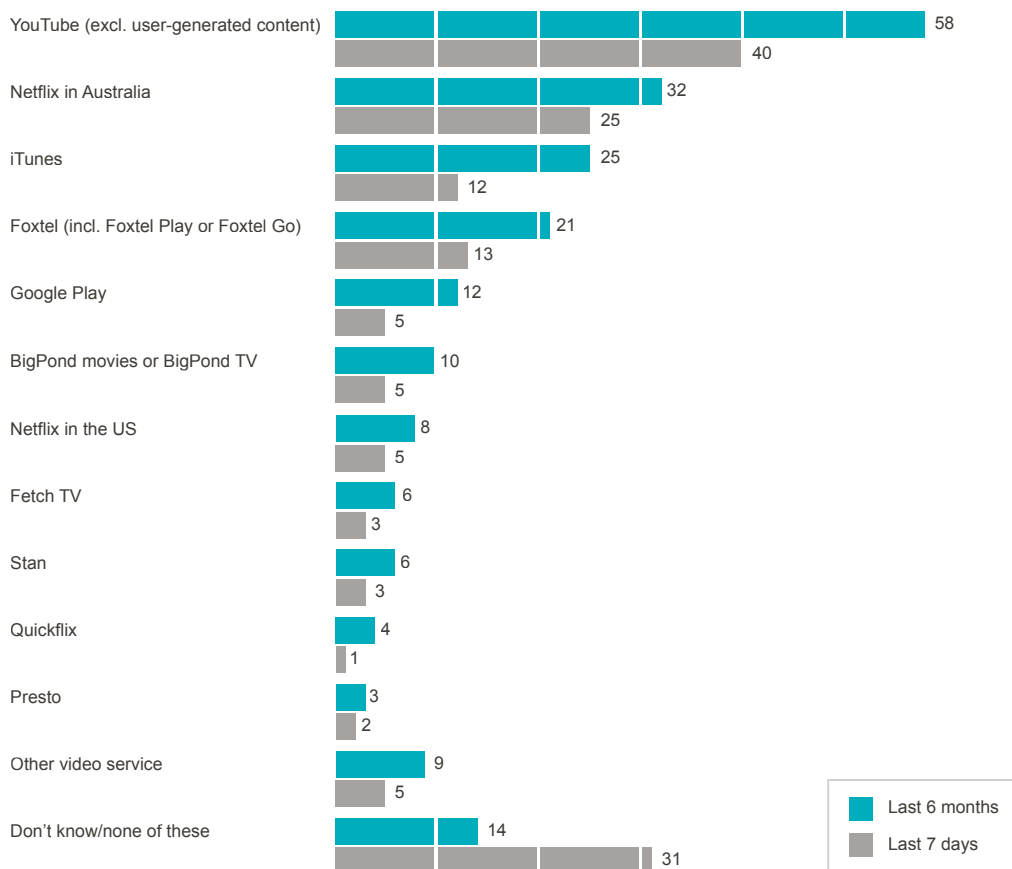
Viewing online video services

YouTube dominates online sources of professional video content, followed by Netflix (Figure 3.6).

In June 2015, 11 per cent of Australian adults had watched Netflix in the last seven days, (or 25 per cent of adults who watched online video) compared with 17 per cent who said they had watched professional content on YouTube in the same period.

Less than 10 per cent of adults had viewed each of the other local video streaming services, such as Fetch, Stan, Presto and Quickflix, in the last six months.

Figure 3.6 Online video services used in the last six months and last seven days (percentage)



Base: Australians aged 18 and over who had watched online video in the last six months (n=626).

Note: In June 2015, less than one per cent of those who watched online video had watched EzyFlix, which ceased to operate in August 2015.

Source: ACMA-commissioned survey, June 2015.

Content choice and other benefits

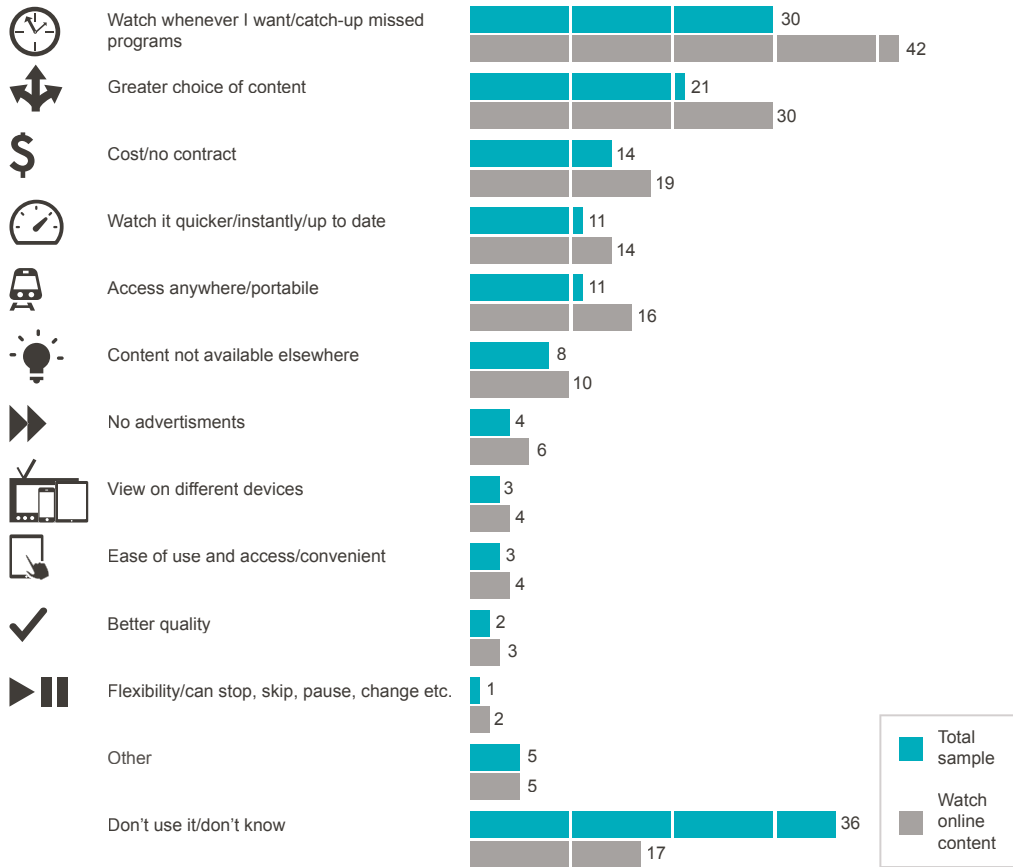
Viewers of online content say that convenience, choice and cost are the top three benefits of accessing video content online (Figure 3.7).

Convenience ('can watch whenever I want') was the main perceived benefit, cited by 30 per cent of all adults and 42 per cent of those who have watched online content in the last six months.

A greater choice of content was the second most cited benefit of online video content, mentioned by 21 per cent of all adults and 30 per cent of online viewers. Netflix in Australia, for example, carries a relatively large library of on-demand content, with over 2,000 titles in September 2015.²²

Cost, or the absence of a contract, was the third most cited benefit of SVOD services, identified by 14 per cent of all adults and 19 per cent of online viewers.

Figure 3.7 Main benefits of accessing video content online (percentage)



Base: Australians aged 18 and over, and those who watched online video in the last six months (n=626).

Source: ACMA-commissioned survey, June 2015.

Technical experience

Ease of use, and satisfaction with technical quality, are important to consumers.²³ Although half of the respondents (53 per cent) who had watched streaming video reported having had a problem in the last seven days, three-quarters (74 per cent) said they were satisfied or very satisfied (Table 3.1).

Table 3.1 Satisfaction with technical quality of streaming video, including catch-up TV services, in the last six months (percentage)

	Technical quality satisfaction
Very satisfied	32
Satisfied	42
Total satisfied	74
Neither satisfied nor dissatisfied	11
Dissatisfied	9
Very dissatisfied	2
Total dissatisfied	12
Don't know/not applicable	4

Base: Australians aged 18 and over who watched streaming video in the last six months (n=795).

Note: Numbers may not add up to category totals due to rounding.

Source: ACMA-commissioned survey, June 2015.

Forty-five per cent of users of streaming video services had experienced no technical problems in the last seven days (Table 3.2).

Table 3.2 Number of technical problems experienced in last seven days (percentage)

	Technical problems experienced
None	45
Once	15
Twice	15
Three times or more	22
Total experienced problems	53
Don't know	2

Base: Australians aged 18 and over who watched streaming video in the last seven days (n=510).

Note: Numbers may not add up to category totals due to rounding.

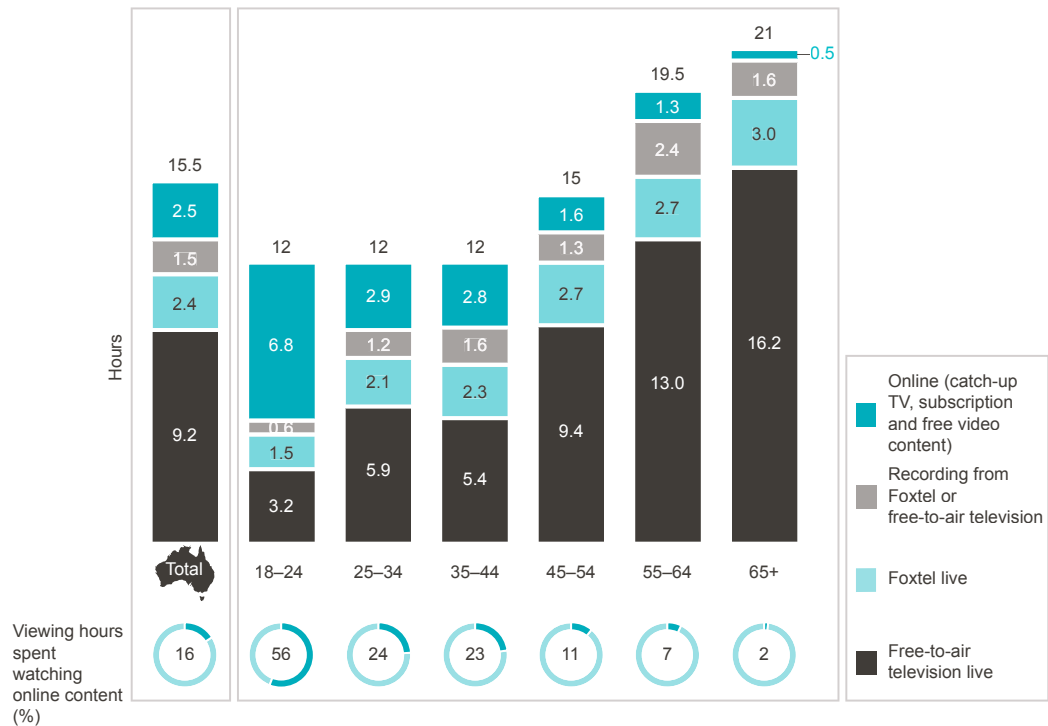
Source: ACMA-commissioned survey, June 2015.

In another study, research by Accenture found that quality issues were the leading cause of complaints while watching long-form video content over the internet on any device. One-third of internet users worldwide said so about the initial time required for buffering, or waiting to play the video, and a similar percentage voiced concerns about video or sound stops as well as distortion during play.²⁴

Who is watching online?

Younger people (aged 18 to 24) spent the largest proportion (56 per cent) of their viewing time watching professional online content (Figure 3.8). However, the total hours this age group watches television and online video combined is among the lowest—a reported 12 hours during the week prior to the survey.

Figure 3.8 Time spent watching television (live or recorded) and online video content in the last seven days



Base: Australians aged 18 and over. Ages: 18–24 (n=176), 25–34 (n=214), 35–44 (n=221), 45–54 (n=242), 55–64 (n=283), 65 and over (n=369).

Note: Numbers may not add up to category totals due to rounding. Online (catch-up TV, subscription and free video content) excludes user-generated content.

Source: ACMA-commissioned survey, June 2015.

In the US, Nielsen data shows that on-demand subscription services such as Netflix, Hulu Plus and Amazon Prime have cut into traditional television ratings.²⁵

Streaming video through a specialised device

A number of devices, such as Apple TV, Google’s Chromecast, and Roku offer alternative ways to watch online content on a television set that is not itself internet connected, or offers limited apps. Telstra announced in July 2015 that it would be offering its own branded version of Roku 2 in September 2015.²⁶

International trends

Globally, there are moves toward a consolidation of the software platforms supporting streaming, with Sony now moving to Android for its most recent smart TV offering.²⁷ Each platform is likely to support a broader set of content services, and there may be an opportunity for the technical experience to improve with investment directed to fewer software platforms.

In the US, Nielsen found that, while digital adoption for home video entertainment is widespread, only 12 per cent of Americans aged 12 and over were digital-only in the way they bought or rented movies and television shows. Nearly half of US consumers' time is spent watching live or time-shifted television.²⁸ This is similar to 18 to 24-year-olds in Australia (Figure 3.8).

3.4 Online news services

Broadcast television remains the main source of news, including for Australians who access news online. Consistent with overseas trends, consumption of newspapers is declining in Australia—but at the same time, Australians are accessing a more interactive and dispersed set of news sources.²⁹

According to industry research, online Australians are spending 4.7 hours in an average week on accessing news content across traditional and online platforms. Online Australians are spending a greater amount of time accessing news online than they do reading printed newspapers (3.4 hours compared with 2.8 hours).³⁰

Industry research has found that 92 per cent of Australians would not be willing to pay for news online as they believe there is enough information available for free. Among those who are willing to pay for online news content, trust in the brand is the leading reason (64 per cent of those respondents willing to pay).³¹

In the six months to May 2015, 1.24 million adult Australians said they had paid to access an online news site, an increase of 5.1 per cent since May 2014. While an increased number paid to access online news, overall the proportion who said they had accessed an online news site in the six months to May 2015 fell 4.7 per cent to 10.28 million compared to 2014, continuing a downward trend.³²

3.5 Broadcasting in Australia

Traditional television and radio services remain integral to Australian life. In June 2015, 86 per cent of adults (people aged 18 and over) said they had watched pay television or free-to-air television in the last seven days³³, and 86 per cent had listened to radio in the last seven days.³⁴

Australian content

The BSA and the Broadcasting Services (Australian Content) Standard 2005 (Australian Content Standard) stipulate Australian content quotas for commercial television. Under the BSA, commercial television broadcasters must provide:




- > 55 per cent Australian content, between 6.00 am and midnight across the year, on their core/primary channel
- > a minimum level of Australian programming other than their core/primary channel (multi-channels). For 2014, this requirement was 1,095 hours, increasing to 1,460 hours in 2015 and beyond.

The Australian Content Standard requires commercial television broadcasters to:

- > broadcast minimum amounts of first-release Australian drama and documentary programs
- > broadcast minimum amounts of Australian-made children's programs
- > ensure that all preschool programs are Australian programs.

Assessment of compliance with the quota requirements is calendar-year based. The metropolitan free-to-air commercial network licensees all met the Australian content transmission quotas for overall content, drama and documentaries for the 2014 calendar year (Table 3.3). The 2014 year also marked the completion of the 2012–2014 triennial period for Australian first-release drama.

Table 3.3 Metropolitan free-to-air commercial network licensee compliance with the Australian Content Standard for the 2014 calendar year

			Minimum quota*	Licensees		
				Seven Network	Nine Network	Ten Network
	On primary/core channel	(%)	55	70	71	63
Overall Australian content	On non-primary/non-core channel	(average hours)	1,095	3,092	1,662	3,491
	First-release Australian drama	(points)	250	292	264	334
	First-release Australian documentaries	(average hours)	20	71	20	42

*Minimum transmission quota required as per section 121G of the Broadcasting Services Act 1992.

Note: Overall Australian content relates to first release and repeat programs that must be broadcast between 6.00 am and midnight. Licensee requirements for each network are calculated by averaging across the following locations: Seven Network—five mainland state capital cities, Nine Network—Brisbane, Melbourne and Sydney, Ten Network—five mainland capital cities.

Australian drama and Australian documentaries relate to first-release programs only.

Source: ACMA.

Children’s programs on commercial television





In conjunction with the Australian Content Standard, the Children’s Television Standards 2009 (CTS) are designed to give children under 14 years of age access to quality television programs that are specifically made for them and reflect their cultural experience.

The CTS requires licensees to provide at least 390 hours annually of children’s programs comprising:

- > 260 hours of children’s (C) programs
- > 130 hours of preschool (P) programs.

The Australian Content Standard sets out additional annual and triennial first-release and C drama requirements within these quotas. For the 2014 calendar year, all Seven Network and Network Ten metropolitan free-to-air commercial television broadcasting licensees met all of these annual quotas. However, due to non-compliance in 2013, three licensees of the Nine Network failed to provide sufficient first-release C drama programming to satisfy the triennial C drama quota (Table 3.4). The remedial action taken by the Nine Network licensees in response to the 2013 non-compliance findings was considered sufficient to not warrant further action in these cases.

Table 3.4 Metropolitan free-to-air commercial network licensee’s compliance with children’s and preschool children’s program quotas (total annual hours), for the 2014 calendar year

			Minimum annual requirement (hours)	Licensees		
				Seven Network	Nine Network	Ten Network
	Australian children’s C drama	First release	25	37	32	38
		Triennium	96	97	92	97
		Repeat	8	93	43	67
	Australian children’s C programs	First release including C drama	130	130	130	130
	Children’s C programs	All	260	262	262	261
	Australian preschool P programs	All	130	131	131	131

Note: Licensee requirements for each network are calculated by averaging across the following locations: Seven Network—five mainland state capital cities, Nine Network—Brisbane, Melbourne and Sydney, Ten Network—five mainland capital cities.

Source: ACMA.

Subscription television drama expenditure

The new eligible drama expenditure scheme requires subscription television broadcasting licensees and channel providers that provide drama services to spend at least 10 per cent of their annual total program expenditure on eligible drama programs during a financial year.³⁵ If the 10 per cent expenditure requirement is not met in the relevant financial year, the shortfall amount must be made up in the following year.

To be eligible, a drama program must be an Australian or New Zealand production or co-production, and must not have been televised in Australia or New Zealand on a broadcasting service at any time before the expenditure on the program was incurred.

The BSA defines a subscription television drama service as a service devoted predominantly to drama programs, that is, more than 50 per cent of the programming consists of drama programs.

For the 2013–14 compliance period³⁶, five licensees and six channel providers supplied 30 eligible drama channels. All participants met their expenditure obligations for 2013–14, reporting the highest level of new Australian drama expenditure of \$36.81 million (aggregated). Of that expenditure, \$25.76 million was nominated to acquit the expenditure shortfall for 2012–13. For 2014–15, licensees and channel providers must spend a minimum of \$18.06 million (in total) on new eligible programs to acquit the remaining 2013–14 obligation.

Annual licensee and channel provider returns for the 2014–15 period fall due on 29 August 2015 and results were not available at the time of publication.

Captioning

During 2013–14³⁷, television service providers reported a high level of compliance with annual captioning target requirements set out in the BSA:

- > All commercial television broadcasting licensees (providing 75 services in total) and one national broadcaster (providing the SBS services in 12 coverage areas) complied with, and exceeded, their annual captioning target requirements.
- > A total of 573,352 hours of television programs were broadcast with a captioning service on the main channels of commercial and national television broadcasting services in 2013–14 (6.00 am to midnight). This was an increase of 26,712 hours of captioning compared to the same period in 2012–13.
- > Ninety-nine per cent of subscription television licensees (656 out of 660) met their annual captioning target requirements. Sixty-seven per cent exceeded their captioning target.
- > A total of 2,080,552 hours of captioned content were broadcast on subscription television services in 2013–14. This was an increase of 622,192 hours compared to 2012–13.

Television service providers also reported instances when they failed to meet captioning obligations during 2013–14. All of the television service providers that did not meet their captioning obligations have taken appropriate steps to prevent similar issues recurring, including resolving technical issues, enhancing procedures and undertaking staff training.

The ACMA did not take any enforcement action on these matters. This is consistent with the ACMA's compliance and enforcement approach—a graduated and strategic risk-based approach that generally uses the minimum power or intervention necessary to achieve the desired result.

Table 3.5 provides a summary of the self-reported breaches, excluding disregarded breaches, that is, breaches resulting from unforeseen technical difficulties were disregarded as provided by the captioning legislation.

Table 3.5 Captioning breaches reported by television services 2013–14

Captioning obligations	Number of services in breach	Description of obligations
Free-to-air	Services	
Annual captioning target	8 national and 0 commercial licensed services 1 national broadcaster was approximately 1% under the target for its services in 8 coverage areas, as 1 music program was not captioned until June 2014	95% captioning between 6.00 am and midnight across the year, with exceptions*
Emergency warnings	0	Transmit emergency warnings in text and speech and, if practicable, with captioning
Designated viewing hours	20 national services and 42 commercial licensed services Average total duration of breaches per non-compliant service was approximately 30 minutes (0.03% of the designated viewing hours in the year)	Caption all programming between 6.00 pm and 10.30 pm each day (designated viewing hours) on main service
News and current affairs	20 national services and 39 commercial licensed services Average total duration of breaches per non-compliant service was approximately 35 minutes in the year	Caption all news and current affairs outside designated viewing hours on main service
Multi-channel	0 national and 15 commercial licensed services Average total duration of breaches per non-compliant service was approximately 41 minutes in the year	Caption repeated programs on a multi-channel if those programs have previously been broadcast with captioning on the broadcaster's main service in the licence or coverage area
Subscription	Services/channels	
Annual captioning target	4 services/channels 1 licensee was 1–8% under the various targets for 4 of its services due to unanticipated issues	5–70% captioning across the year depending on service category, with exceptions*
Emergency warnings	0	Transmit emergency warnings in text and speech and if practicable, with captioning
Simulcast programming	15 services/3 distinct channels	Caption simulcast programs on the second service if the programs are simultaneously transmitted with captions on the first service
Repeat programming	35 services/7 distinct channels	Caption programs that have previously been transmitted with captions and then repeated on the same or another subscription television service provided by the licensee

*Captioning obligations do not apply to exempt programs, which include foreign programs (not wholly in English) and music programs that do not contain any human vocal content. In 2013–14, three commercial broadcasters had a reduced annual target of 85 per cent as a result of target reduction orders (unjustifiable hardship). Some subscription services were exempt from the annual captioning target as a result of exemption orders (unjustifiable hardship) and nominations under section 130ZX of the BSA—a transitional measure that allows exemption of certain services if the licensee has met the annual captioning target for the threshold number of services.

Source: ACMA.

Exemption orders and target reduction orders

In 2014–15, the ACMA received 72 applications for captioning exemption orders and 10 applications for captioning target reduction orders. As a result, the ACMA made 72 exemption orders and four target reduction orders during the year, all for subscription television services. The ACMA met the statutory requirement to make a decision on each application for exemption orders and target reduction orders within 90 days of receiving the applications.

Table 3.6 provides a summary of the ACMA decisions on the applications.

Table 3.6 Captioning exemption orders and target reduction orders

Application type*	Approved	Refused	Decision not finalised as at 30 June 2015
Exemption order	72	0	0
Target reduction order	4	3	3

*The ACMA has the power to make an exemption order or a target reduction order for a specified commercial, national or subscription television service if the ACMA is satisfied that refusing to do so would cause unjustifiable hardship to the broadcaster or licensee.

Source: ACMA.

Legislative amendments

Amendments to captioning provisions in the BSA³⁸ became effective from 20 March 2015. The amendments were introduced by the government to improve administration arrangements and to increase flexibility for television services in complying with captioning obligations. Key changes included:

- > requiring the ACMA to review, and vary as appropriate, the captioning quality standard to consider the differences between the captioning services for live television programs and pre-recorded television programs by 19 March 2016
- > exempting new subscription television services in Australia from the annual captioning targets for at least the first 12 months of operation
- > allowing aggregation of captioning targets across subscription television sports channels supplied by the same channel provider, subject to minimum levels being met on each individual channel of the channel provider
- > amending record-keeping requirements to differentiate between written records and audio-visual records.

Notification of changes in control

Commercial television licensees, commercial radio licensees and publishers of associated newspapers must notify the ACMA of any changes in control within 10 business days of becoming aware of those changes (section 63 of the BSA). Persons who come into a position to exercise control of such licences and associated newspapers are also required to notify the ACMA within 10 business days of becoming aware of the change in control (section 64 of the BSA).

During 2014–15, no infringement notices were given for late notifications of changes of control. Eight formal warnings were given, of which four related to late notifications submitted in the previous financial year.

Sixteen events affecting the control of media operations occurred during 2014–15.

The licensees of all 327 commercial broadcasting licences and publishers of all 46 associated newspapers lodged their annual returns (as required under section 62 of the BSA³⁹).

Local information on regional television

The following regional commercial television broadcasting licensees in Queensland, New South Wales, Victoria and Tasmania must broadcast minimum amounts of material of local significance (local content) as a result of an additional licence condition:

- > Seven Qld, Southern Cross and WIN TV in regional Queensland
- > NBN Ltd, Prime Television and Southern Cross in northern New South Wales
- > Prime Television, Southern Cross and WIN TV in southern New South Wales
- > Prime Television, Southern Cross and WIN TV in regional Victoria
- > Southern Cross, WIN TV and Southern Cross/WIN joint venture in Tasmania.

For the period 1 July 2014 to 30 June 2015, the ACMA did not receive any complaints about compliance under the local content additional licence condition.

Local content, information and presence on regional commercial radio

The Broadcasting Services (Regional Commercial Radio—Material of Local Significance) Licence Condition 2014 requires 211 regional commercial radio licensees⁴⁰ to broadcast prescribed amounts of material of local significance (local content) between 5.00 am and 8.00 pm on business days. Licensees are exempt from this obligation for a five-week ‘holiday’ period each year.

According to the annual returns for 2013–14⁴¹, all licensees broadcast the prescribed amount of local content as required by the licence condition.

A regional commercial radio licensee affected by certain changes in ownership or control (known as a ‘trigger event’) is required to:

- > broadcast specified amounts of local news and information for 47 weeks per year (minimum service standards)
- > maintain existing levels of local presence (local staff and facilities) for 24 months from the date of the trigger event.⁴²

According to the annual returns for 2013–14, trigger event-affected licensees maintained a high level of compliance with their local content plans. Of the 110 trigger event-affected licensees reporting to the ACMA, all but two licensees complied with their approved local content plan.

On 2 July 2014, the 24-month local presence compliance period ceased for two regional commercial radio licences affected by trigger events and on 15 March 2015, the 24-month local presence compliance period ceased for an additional two licences.

Anti-siphoning provisions

The anti-siphoning scheme in the BSA restricts subscription television broadcasting licensees from acquiring anti-siphoning events in certain instances. The scheme also restricts the broadcast of anti-siphoning events by free-to-air broadcasters on their digital multi-channels.

During the reporting period, the ACMA did not commence any investigations into any commercial television licensee’s compliance with the licence condition restricting the broadcast of anti-siphoning events.

Digital broadcasting

Digital television

The switchover from analog to digital television broadcasting was completed across Australia on 10 December 2013, when analog services were switched off in Melbourne and in remote central and eastern Australia.

Following switchover, 1,294 digital television transmitters servicing 367 areas moved to new channels in accordance with a new channel plan. This 'restack' of channels was required to clear the 700 MHz digital dividend (channels above UHF 51). The final digital television transmitters were restacked on 9 December 2014.

Digital radio

Digital radio services, using DAB+ technology in VHF Band III spectrum, have been running on a permanent basis in the metropolitan areas of Adelaide, Brisbane, Melbourne, Perth and Sydney since July 2009.

Trials of DAB+ are being conducted in Canberra and Darwin by the peak commercial radio body, Commercial Radio Australia. The trials were to expire on 30 August 2015 but have subsequently been extended.

On 8 July 2015, the government published a report prepared by the Department of Communications⁴³ on digital radio services in Australia.⁴⁴ The *Digital Radio Report* made several recommendations, including the establishment of a Digital Radio Planning Committee for Regional Australia to be chaired by the ACMA. In announcing the release of the Digital Radio Report, the then minister announced that the government expects that the planning committee would give priority to the licensing of permanent digital radio services in Canberra and Darwin, before planning the rollout in new areas of Australia.

Broadcasting complaints and investigations





The ACMA monitors the number and details of complaints it receives about possible breaches of the BSA, standards, licence conditions and code provisions. Not all complaints are investigated, as the complainant may choose not to pursue the matter further or because the complaint is outside the ACMA's jurisdiction.

Further, since 17 October 2014, the ACMA has had a discretion whether to investigate complaints about broadcasting matters in the public interest. When deciding whether to investigate a particular matter, the ACMA has regard to a range of factors including the nature and seriousness of the issue raised; the applicability of any relevant legislation, code of practice or standard; the potential to affect the community at large and its priority in relation to other matters of public interest.

From 17 October 2014 to 30 June 2015, the ACMA exercised its discretion to investigate 61 valid complaints and declined to investigate 35 valid complaints. (Note that multiple valid complaints may concern a single broadcast or matter.)

There were 1,012 written complaints and enquiries made to the ACMA about broadcasting matters during 2014–15, a 36 per cent decrease from 2013–14. The number of investigations completed in 2014–15 was 145 (Table 3.7).

Table 3.7 ACMA broadcasting complaints and investigations by financial year

	2010–11	2011–12	2012–13	2013–14	2014–15
 Written complaints and enquiries received	1,512	2,273	2,178 [†]	1,593	1,012
 Investigations completed	197	231	212	180	145 [†]
 Investigations resulting in a breach finding*	72	71	67	45	35
 Investigations resulting in a non-breach finding*	115	155	135	132	100

*Investigations against a code of practice, licence condition, standard and/or provision of the Broadcasting Services Act 1992.

[†]Three investigations resulted in no findings and seven investigations were concluded.

Note: Sum of categories does not equal total number of investigations completed due to exclusion of completed investigations with no finding; for example, where the complaint is withdrawn.

Source: Broadcasting complaints to the ACMA.

3.6 Online content investigations

The Online Content Scheme, established under Schedules 5 and 7 to the BSA, dovetails with industry codes of practice. Under the scheme, the ACMA investigates valid complaints about online content, where the complainant considers that the content may be prohibited. On 1 July 2015, these responsibilities were transferred to the Office of the Children’s eSafety Commissioner.




Prohibited online content is defined by reference to the National Classification Scheme, established under the *Classification (Publications, Films and Computer Games) Act 1995*. Content that is classified RC (Refused Classification) and X 18+ is prohibited and, in certain circumstances, content that is classified R 18+ and MA 15+ is also prohibited. Content that has not been formally classified by the National Classification Board, but has been assessed by the ACMA as likely to be prohibited, is termed ‘potential prohibited’ content under the BSA.⁴⁵

During 2014–15, the ACMA received 4,801 complaints (an 18 per cent increase compared to 2013–14) and finalised investigations into 8,728 items of content as at 30 June 2015 (a complaint may result in the investigation of multiple items of content). Of the investigations completed, 6,708 items were assessed as prohibited or potential prohibited online content. Approximately 61 per cent of the items actioned were assessed and/or classified as RC. Of these, 95 per cent concerned child sexual abuse material.

If prohibited content is hosted in or provided from Australia, the ACMA must direct the content service provider to remove or prevent access to it (depending on its nature). If prohibited or potential prohibited content is hosted overseas, the ACMA notifies the suppliers of optional end-user (PC-based) industry accredited filters. These filters have been tested and accredited by Communications Alliance, as part of the Family Friendly Filter scheme, in accordance with the Internet and Mobile Content Code.

During 2014–15, a total of 6,708 overseas-hosted prohibited or potential prohibited items were referred to suppliers of optional end-user industry-accredited filters (Table 3.8 below). No prohibited items were found to be hosted in Australia. Where prohibited content has been hosted in Australia, there has been a 100 per cent compliance with ‘take-down’ notices across the life of the Online Content Scheme.

Table 3.8 Internet content investigations by financial year

	2010–11	2011–12	2012–13	2013–14	2014–15	2013–14 to 2014–15 change (%)
 Complaints						
Received*	4,865	5,026	4,633	4,051	4,801	+18
Invalid†	217	329	115	50	170	+240
 Investigations						
Terminated‡	174	210	556	578	625	+8
Completed§	3,994	5,403	3,143	10,586	8,103	-23
Total items investigated	6,587	6,265	3,793	11,164	8,728	-21
 Action taken						
Items actioned# (hosted in, or provided from, Australia)	12	7	8**	1	0	-100
Items actioned (overseas-hosted)	1,945	2,004	1,845	8,980	6,708	-25
Items of online child abuse and other illegal material referred to law enforcement	1,071	1,130	1,182	7,670	5,094	-33

*A complaint may not reach investigation stage if the complainant is not eligible to make a complaint or if the complaint is about a matter that the ACMA cannot investigate.

†A complaint is not investigated if the complaint is invalid. A complaint is invalid if it does not contain the required information set out at subclause 37(4) of Schedule 7 to the BSA, or has been made by a person not entitled to make a complaint.

‡An investigation may be terminated if the ACMA is of the opinion that it does not have sufficient information to conclude the investigation.

§An investigation may relate to one or many items of content. An investigation may be terminated if the ACMA does not have sufficient information to conduct its investigation.

||An item relates to an individual page, image or other file.

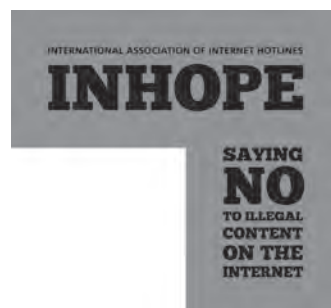
#Action is taken on items assessed as prohibited or potential prohibited.

**Three items of content were removed upon referral to law enforcement prior to any take-down notices being issued by the ACMA.

Source: Online content complaints actioned by the ACMA.

International cooperation to remove online illegal content

The ACMA places a high priority on acting promptly and effectively against child sexual abuse material. The ACMA refers this content to either an Australian law enforcement agency or a law enforcement-endorsed overseas agency through the International Association of Internet Hotlines (INHOPE), of which the ACMA is a long-term member. INHOPE coordinates a network of international hotlines to take swift action in response to reports of illegal content. INHOPE acts as a rapid law enforcement notification and take-down channel across international borders. In 2014–15, the ACMA referred 5,094 items of online child abuse and other illegal material to law enforcement agencies. Of these, 5,035 items of child sexual abuse material were notified through INHOPE for take-down.



Interactive gambling

The *Interactive Gambling Act 2001* (the IGA) prohibits certain internet gambling content, as well as the advertising of such content. IGA complaints received and actioned by the ACMA in the reporting period are outlined in Table 3.9. Under the IGA, the ACMA must not investigate Australian-hosted content but must refer complaints to an Australian police force, if it is warranted to do so. The ACMA received a total of 178 complaints and enquiries during 2014–15, a 47 per cent increase from 121 received in 2013–14. A Review of the impact of illegal offshore wagering to investigate options of strengthening the enforcement of the IGA is currently underway.

Table 3.9 Interactive gambling

 Interactive gambling	2013–14	2014–15
Complaints and general enquiries	121	178
Investigations of overseas-hosted gambling content	23	12
Prohibited internet gambling content found to be in breach of the IGA, notified to accredited filter providers and the AFP	11	9
Assessments of Australian-hosted gambling content	25	14
Potential prohibited content referred to the AFP	10	5
Investigations into the broadcast of interactive gambling advertisements*	0	0

*Under the IGA, the ACMA only investigates interactive gambling advertisements broadcast on television or radio. The Department of Communications and the Arts takes responsibility for all other advertising, such as online or in print.

Endnotes

¹ Regional TAM Pty Limited, 2015 and OzTAM Pty Limited, 2015.

² ACMA-commissioned survey, June 2015.

³ *ibid.*

⁴ Digital Radio Plus: Latest News Item, 12 August 2015.

⁵ The Conversation, Foxtel's bundle of pain could come sooner than it thinks, 10 August 2015, <https://theconversation.com/foxtels-bundle-of-pain-could-come-sooner-than-it-thinks-45834>. See also Figure 5.

⁶ The Conversation, Netflix arrival will be a tipping point for TV in Australia, March 12, 2015, <https://theconversation.com/netflix-arrival-will-be-a-tipping-point-for-tv-in-australia-38386>.

-
- ⁷ Variety, The OTT View-niverse: A Map of the New Video Ecosystem, 29 April 2015, <http://variety.com/2015/digital/news/ott-map-video-ecosystem-1201480930/>.
- ⁸ See also ACMA, Subscription Video on Demand in Australia 2015, November 2015.
- ⁹ ACMA-commissioned survey, June 2015.
- ¹⁰ OzTAM Pty Limited, 2015, Average weekly cumulative reach (five minutes consecutive) for people aged 18 and over in the five mainland metropolitan markets (Sydney, Melbourne, Brisbane, Adelaide and Perth).
- ¹¹ Telstra, transcript from 'Telstra Full Year Results Presentation—Analyst Briefing', 14 August 2015.
- ¹² mUmbrella, 'Foxtel admits subscriber figures include Presto users but claims cable still biggest growth driver' 13 August 2015, <http://mumbrella.com.au/foxtel-admits-subscriber-figures-include-presto-users-but-claims-cable-still-biggest-growth-driver-311968>.
- ¹³ Knox, D., 'The view from iView', *TV Tonight*, 29 July 2015, <http://www.tvtonight.com.au/2015/07/the-view-from-iview.html>, accessed 26 August 2015.
- ¹⁴ Mason, M., 'HFC Network will cope with rise of Netflix, says NBN' *The Australian Financial Review*, 21 April 2015, <http://www.afr.com/technology/hfc-network-will-cope-with-rise-of-netflix-says-nbn-20150421-1mpp51>.
- ¹⁵ Barr, T., 'Whither Netflix?' *Australian Journal of Telecommunications and the Digital Economy*, June 2015.
- ¹⁶ Commission seeks views on Europe's audiovisual media rules, <https://ec.europa.eu/digital-agenda/en/news/commission-seeks-views-europes-audiovisual-media-rules>.
- ¹⁷ The Australian, 'More Netflix pirates on board,' 3 March 2014, <http://www.theaustralian.com.au/business/media/more-netflix-pirates-on-board/story-fna045gd-1226842998214>.
- ¹⁸ Lifehacker Australia, 'How Many People Use Netflix In Australia?', 14 July 2014, <http://www.lifehacker.com.au/2014/07/how-many-people-use-netflix-in-australia/>.
- ¹⁹ The Australian Financial Review, 'Netflix fights itself in Australia', 25 November 2014, <http://www.afr.com/business/media-and-marketing/tv/netflix-fights-itself-in-australia-20141124-11t1xt>.
- ²⁰ Choice, 'TV on the cheap,' 24 November 2014, <https://www.choice.com.au/electronics-and-technology/home-entertainment/home-entertainment-networks/articles/how-many-australians-watch-netflix-241114>.
- ²¹ Roy Morgan, Finding No. 6389, Netflix reaches 1.89 million Australians, 11 August 2015, <http://www.roymorgan.com/findings/6389-netflix-expands-market-foxtel-steady-australia-pay-tv-svod-july-2015-201508102349>
- ²² <http://netflixaustralia.netflixable.com/>
- ²³ Conviva, VXR Viewer Experience Report, Mid-year update, 2015.
- ²⁴ Accenture, Digital Video and the Connected Consumer, 2015, https://www.accenture.com/t20150523T021027__w_/us-en/_acnmedia/Accenture/Conversion-Assets/Microsites/Documents17/Accenture-Digital-Video-Connected-Consumer.pdf
- ²⁵ Davies, J., 'Amazon hires BT TV chief Alex Green to head up Instant Video', *Digiday* 30 July 2015, <http://digiday.com/platforms/amazon-hires-bt-tv-chief-alex-green-head-instant-video/>.
- ²⁶ Turner, A., 'Who wants a Roku streaming video box from Telstra?', *Sydney Morning Herald*, 29 July 2015, <http://www.smh.com.au/digital-life/computers/gadgets-on-the-go/who-wants-a-roku-streaming-video-box-from-telstra-20150729-gimvbx.html>.
- ²⁷ Turner, A., 'Hands on review: Sony Android TV', *Sydney Morning Herald*, 15 July 2015, <http://www.smh.com.au/digital-life/computers/gadgets-on-the-go/hands-on-review-sony-android-tv-201507-15-gicrh1.html#ixzz3g12mXpIV>.
- ²⁸ Nielsen (2015) Home entertainment consumer trends: digital transition tracker report, May 2015, <http://www.nielsen.com/us/en/insights/reports/2015/home-entertainment-consumer-trends-digital-transition-tracker-report-may-2015.html>.
- ²⁹ Australian Communications and Media Authority, Emerging media and communications trends, 12 June 2015, <http://intranet/working-at-the-acma/news-and-views/acma-news/news-of-the-week/emerging-media-and-communications-trends>.
- ³⁰ Nielsen, Australian Connected Consumers, evolving patterns of media consumption in the digital age, February 2015.
- ³¹ Deloitte, Media Consumer Survey 2014—Australian media and digital preferences, 3rd edition.
- ³² ACMA-commissioned surveys, May 2014 and May 2015.
- ³³ ACMA-commissioned survey, June 2015.
- ³⁴ Roy Morgan Single Source.
- ³⁵ The scheme imposes a spending obligation on subscription television broadcasting licensees and channel providers on Australian and New Zealand programs, but there is no requirement to broadcast such programs.
- ³⁶ This is the most recent available data at time of publication.
- ³⁷ *ibid*.
- ³⁸ Captioning provisions in the *Broadcasting Services Act 1992* (BSA) were amended by the *Broadcasting and Other Legislation Amendment (Deregulation) Act 2015*.
- ³⁹ The annual notification requirement under section 62 of the BSA has now been removed.
- ⁴⁰ This number excludes regional commercial radio broadcasting services licensed under section 40 of the BSA, regional racing services, or remote licences as these services are exempt from the local content licence condition.
- ⁴¹ This is the most recent available data at time of publication.
- ⁴² Except regional commercial radio broadcasting services licensed under section 40 of the BSA, regional racing services, or remote licences that are exempt from the minimum service standards and local presence obligations that apply following a trigger event.
- ⁴³ The Department of Communications became the Department of Communications and the Arts on 21 September 2015.
- ⁴⁴ Department of Communications, Digital Radio Report, July 2015, <https://www.communications.gov.au/publications/digital-radio-report>.
- ⁴⁵ Potential prohibited content is defined at clause 21 of Schedule 7 of the BSA.

Chapter 4: National interest issues

4.1 Overview

This chapter addresses regulatory requirements to report on the performance of the emergency call service, other national interest issues and cooperation with law enforcement agencies. This includes information about communications industry support for law enforcement and national security agencies through the maintenance of communications interception capabilities and the authorised disclosure of information. Information on the protection of Australia's critical submarine cable infrastructure and radiocommunications interference complaints is also provided.

In summary:

- > mobile carriers introduced a new capability that allows emergency service organisations to more accurately determine the most precise location of mobile callers to the Triple Zero service
- > Telstra again performed above emergency call answering regulatory requirements, in terms of the time taken to answer each call
- > 66.9 per cent of emergency calls (5,606,275) were made from mobile phones
- > there was a small decrease (1.2 per cent) in the number of calls (104,076) made to the emergency service numbers Triple Zero and 112
- > domestic systems interference complaints decreased by 59 per cent, while radiocommunications interference complaints more than doubled from 2013–14 levels
- > the number of carriage services reported suspended by carriage service providers (CSPs) increased by 40 per cent, rising from 22 in 2013–14 to 31 in 2014–15
- > the cost to industry of providing interception capabilities increased by 18 per cent from \$19.3 million to \$22.9 million
- > the number of disclosures made by CSPs and carriers reported under section 308 of the *Telecommunications Act 1997* (the Telecommunications Act) increased by 10.3 per cent from 748,079 to 824,841
- > in December 2014, the ACMA approved two additional methods of verifying the identity of purchasers of pre-paid mobile services, leading to an estimated annual saving to industry of \$6.2 million in compliance costs.

4.2 Emergency call service

Under the Telecommunications (Emergency Call Service) Determination 2009 (the Emergency Call Service Determination), CSPs are required to provide free access to the emergency call service from standard telephone and mobile services. The emergency call service is an operator-assisted service that connects callers to an emergency service organisation (ESO)—police, fire or ambulance—in life-threatening or time-critical situations.

The emergency call service is provided by the emergency call persons (ECPs), who are:

- > Telstra—for calls made to the primary emergency service number (Triple Zero) and to the international emergency number 112 from mobile phones
- > Australian Communication Exchange (ACE)—for calls made to the 106 text service for people who are Deaf or have a hearing or speech impairment.

This section outlines the volume and type of calls to the emergency call service, along with the performance of the ECPs in answering emergency calls.

Emergency call service—Triple Zero and 112

When dialling Triple Zero, a recorded voice announcement (RVA) provides callers who have inadvertently dialled Triple Zero with the opportunity to hang up before the call is connected to the ECP. In 2014–15, 3.9 per cent of calls to Triple Zero were from callers who hung up after hearing the RVA before connection to the ECP, leaving 96.0 per cent of calls to be connected to the ECP.

ECP data shows the number of calls to the Triple Zero and 112 emergency service numbers fell by 104,076 (1.2 per cent) to 8,377,394 calls in 2014–15 (Table 4.1). The ECP has attributed this decline to the increased promotion of the appropriate use of the Triple Zero and 112 services and alternative numbers, such as 132 500, the State Emergency Service number.

In 2014–15, 66.9 per cent of emergency calls (5,606,275) were made from mobile phones (Table 4.1). Calls from fixed-line telephones represented 33.2 per cent of emergency calls, while 2.4 per cent were made from public payphones.

Telstra's performance in answering emergency calls

Section 32 of the Emergency Call Service Determination sets out performance criteria for the ECPs answering of calls to Triple Zero and 112, as follows:

- > 85 per cent of emergency calls answered within five seconds
- > 95 per cent of emergency calls answered within 10 seconds.

As in previous years, Telstra performed well above the regulatory requirement in the reporting period (Table 4.1).

Calls connected to emergency service organisations

The ECP for Triple Zero and 112 transfers emergency calls to the relevant state or territory emergency service answering point that is responsible for arranging for the dispatch of an emergency response. In 2014–15, 5,888,050 calls were transferred to an ESO, an increase of 2.6 per cent on the previous year (Table 4.1).

Calls identified by the ECP as being non-emergency calls are not connected to an ESO. Non-emergency calls include misdials, automatically generated calls from incorrectly programmed fax machines or modems, callers reporting matters that are not emergencies, and hoax and malicious calls.

The proportion of ECP answered calls transferred to an ESO increased from 61.5 per cent in 2011–12 to 73.2 per cent in 2014–15. The increase in 2014–15 was 2.6 percentage points over the previous year (Table 4.1). This ongoing improvement reflects the efforts of the ECP in managing the number of non-emergency calls made to the Triple Zero service.

The ACMA is continuing to monitor the results of an escalated warning process that was introduced in July 2009, and is managed by Telstra (as the ECP for Triple Zero and 112) and the three mobile network carriers. This process can lead to a mobile handset being blocked from making most calls if it is used to make repeated non-emergency calls to Triple Zero. Experience is showing that the risk of account suspension and police referral is acting as a significant deterrent. On average, 99 per cent of callers making repeated non-emergency calls are deterred from further misuse after receiving a warning from the ECP.

Table 4.1 Call volumes to emergency call service numbers Triple Zero and 112, and call answering times

	2010–11	2011–12	2012–13	2013–14	2014–15
Calls offered from mobile phones (%)	63.9	67.3	66.9	66.5	66.9
Calls answered (%)	95.8	96.0	96.0	96.0	96.0
Of calls answered, those that wait five seconds or fewer (%)	95.7	95.8	95.8	95.4	97.3
Of calls answered, those that wait 10 seconds or fewer (%)	99.1	98.9	99.1	99.3	98.7
Total number of calls offered	8,867,191	9,429,595	8,854,728	8,481,470	8,377,394
Answered calls transferred to an ESO (%)	63.1	61.5	67.5	70.6	73.2
Calls transferred to an ESO	5,354,680	5,561,072	5,727,411	5,738,061	5,888,050

Note: The term 'calls offered' refers to the number of calls received by the ECP after the recorded voice announcement (RVA).

The RVA gives people who have inadvertently or otherwise dialled Triple Zero the opportunity to hang up before being connected to the ECP. Calls answered refers to the percentage of these calls that were answered.

Source: Emergency call person (Telstra).

Precise mobile location for emergency service organisations

The Emergency Call Service Determination requires a mobile carrier to provide the most precise information it has available about the location of a person using a mobile phone to make an emergency call. This information is provided by the mobile network owners on request by an ESO. During the reporting period, the mobile carriers responded to 10,199 requests from ESOs for a precise mobile location.

In October 2014, the mobile carriers introduced a new capability that allows ESOs to obtain access to the location of the specific cell tower or better location information during the Triple Zero call. In most cases, callers can provide their location but this is not always possible where a caller is unaware of their location or unable to pass on information because they are stressed, disoriented, or unfamiliar with the area. Improved mobile caller location assists emergency services in helping to locate callers and to ensure emergency assistance is provided to the caller as quickly as possible.

The ACMA has facilitated this important public safety initiative, and recognises the significant contributions made by the mobile carriers and the ECP for Triple Zero in ensuring its successful delivery. The next step being explored by industry is the extraction and automatic transfer of Global Positioning System (GPS) information from the emergency caller's mobile handset, if available, for access by ESOs.

Enquiries and complaints about the Triple Zero service

During the reporting period, the ACMA received three complaints and enquiries about the Triple Zero service. All of these related to the handling of calls by the ESOs (and not to Telstra as the ECP for Triple Zero and 112) and were referred to the relevant organisation for a response. No formal investigations were undertaken by the ACMA.

Emergency call service—NRS

The relay service provider for the National Relay Service (NRS) is specified as an ECP in the Emergency Call Persons Determination. ACE is currently contracted by the Commonwealth as the NRS relay service provider and operates a text emergency service on the 106 number in this capacity. The 106 text emergency service is available for users with a teletypewriter (TTY). There were 123 genuine calls to ESOs via the 106 text emergency service in 2014–15, compared to 155 genuine calls in 2013–14 and 199 in 2012–13.

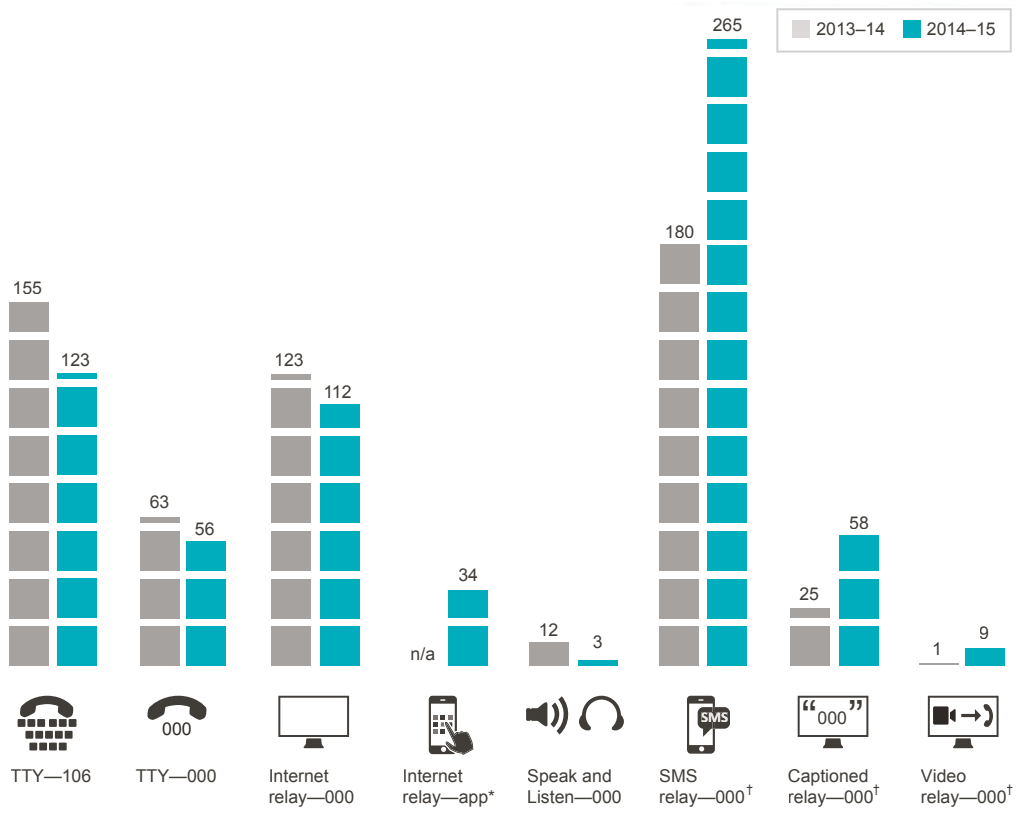
As shown in Figure 4.1, a significant number of genuine calls were also relayed by the NRS to ESOs via the Triple Zero emergency services number. In these circumstances, TTY users contacted the NRS via normal access numbers and requested the call be relayed to Triple Zero, rather than dialling the 106 text emergency service number from their TTY. Calls to Triple Zero can also be relayed through the NRS for its internet relay and Speak and Listen (speech-to-speech relay) callers, as these users are unable to access the 106 number through these services.

A total of 332 calls were made to Triple Zero using SMS relay (web browser), video relay, and captioned relay in 2014–15, compared to 206 calls made using these three services in 2013–14. This represents a 61 per cent increase in the use of this technology, with the use of the Captioned relay alone more than doubling in the year to June 2015.

The NRS launched a new app in December 2014 allowing Internet relay and Speak and Listen users to make calls via the app rather than using an internet browser. The app also allows the caller to insert the location into the call using the GPS function of the device. There were 34 calls made via the app between December 2014 and June 2015.

A total of 660 genuine emergency calls were made via the NRS across all modes (SMS relay, Internet relay, Captioned relay, Video relay, Speak and Listen and TTY) in 2014–15, compared with 559 during 2013–14 and 475 calls made during 2012–13.

Figure 4.1 Genuine emergency calls via the NRS



n/a=not available.

*New service introduced in December 2014.

†New services introduced in 2013–14.

Base: Number of calls.

Source: NRS service provider (ACE).

4.3 Supporting law enforcement and national security agencies

The telecommunications industry, including internet service providers, is obliged to provide reasonably necessary assistance to law enforcement and national security agencies under section 313 of the Telecommunications Act. This assistance can take many forms, but most commonly involves providing information regarding consumers of telecommunications services and their communications for the purposes of:

- > enforcing the criminal law
- > enforcing laws that impose a pecuniary penalty
- > assisting the enforcement of the criminal laws in force in a foreign country
- > protecting the public revenue
- > safeguarding national security.

During the reporting period, the Attorney-General's Department (AGD) did not refer any carriers or CSPs to the ACMA for enforcement action for refusing to provide an agency with such assistance.

On 1 June 2015, the House of Representatives' Standing Committee on Infrastructure and Communications tabled a report on its inquiry into the use of section 313 of the Telecommunications Act by government agencies to disrupt illegal online services. The committee recommended the adoption of guidelines for use by government agencies to improve transparency and accountability around the use of section 313 to disrupt access to illegal online services. The committee also recommended that all agencies using section 313 have the necessary level of technical expertise to carry out such activity, or procedures for drawing on the expertise of other agencies.

The government is expected to respond to the committee's report during 2015–16.

Disclosure of customer information

Customer information provided to telecommunications carriers, CSPs and telecommunications contractors is protected under Part 13 of the Telecommunications Act. Carriers, CSPs and telecommunications contractors are prohibited from disclosing information to other parties except in certain limited and restricted circumstances. Those circumstances include:

- > where it is required or authorised by a warrant or under law
- > disclosure to the ACMA, Australian Competition and Consumer Commission (ACCC), Telecommunications Industry Ombudsman (TIO) or the (former) Telecommunications Universal Service Management Agency (TUSMA), where the disclosure may assist those agencies to carry out their functions or powers, or in the case of the TIO, assist in the consideration of a complaint
- > an imminent threat to a person's life or health
- > satisfying the business needs of other carriers and CSPs, where the customer is or was a customer of a carrier or CSP.

Carriers and CSPs are required to report to the ACMA on any disclosures that are authorised under either Part 13 of the Telecommunications Act or Chapter 4 of the *Telecommunications (Interception and Access) Act 1979* (the TIA Act).

During 2014–15, the number of disclosures, as reported to the ACMA under section 308 of the Telecommunications Act, was 824,841, an increase of 76,767 (10.3 per cent) from 2013–14. Of these, 71 per cent were covered by an authorisation in force to access existing information or documents for the enforcement of the criminal law under section 178 of the TIA Act, up from 16 per cent in the previous year.

Carrier and CSP data also indicates that 21 per cent of all disclosures were made with the knowledge or consent of the person concerned under section 289 of the Telecommunications Act. The number and reason for disclosures made during 2014–15, as reported to the ACMA under section 308 of the Telecommunications Act, are in Table 4.2.

Table 4.2 Disclosures

Reason for disclosure		(Sub)section	Number of disclosures	
			2013–14	2014–15
Under Part 13 of the <i>Telecommunications Act 1997</i>				
Authorised by or under law		280	11,526	13,106
Made as a witness under summons		281	553	484
To assist the ACMA		284(1)	896	1,268
To assist the ACCC		284(2)	12	11
To assist the TIO		284(3)	10,785	8,749
To assist the TUSMA		284(4)	0	0
Calls to emergency service number		286	8,422	10,073
To avert a threat to a person's life or health		287	12,453	14,500
Communications for maritime purposes		288	0	0
With the knowledge or consent of the person concerned		289	120,357	171,926
In circumstances prescribed in the Telecommunications Regulations 2001		292	2	0
Connected with an exempt disclosure		293	273	6
Subtotal			165,279	220,123
Under the <i>Telecommunications (Interception and Access) Act 1979</i>				
Voluntary disclosures		177	73	437
Authorisations for access to existing information or documents	Enforcement of the criminal law	178	563,012	584,029
	Locating missing persons	178A	3,170	4,195
	Enforcement of a law imposing pecuniary penalty or protection of the public revenue	179	9,162	7,206
Authorisations for access to prospective information or documents		180	7,346	8784
Enforcement of the criminal law of a foreign country	Existing information	180A	17	52
	Prospective information	180B	20	15
Subtotal			582,800	604,718
Total			748,079	824,841

Source: Carriers.

Information about enforcement agency use of powers under the TIA Act to obtain information from carriers and carriage service providers is contained in annual reports prepared by the Attorney-General under subsection 186(2) of the TIA Act.

For disclosures made under sections 177, 178, 178A, 179, 180, 180A and 180B of the TIA Act, law enforcement agencies (civil and criminal) must be satisfied that the information they request is reasonably necessary to perform their law enforcement functions. An authorised officer must also consider whether any interference with the privacy of any person or persons that may result from the disclosure is justifiable, having regard to the likely relevance and usefulness of the information or documents, and the reason why the disclosure concerned was authorised.

Emergency suspension of carriage services

Under section 315 of the Telecommunications Act, a senior police officer of a police force or service who holds a rank not lower than the rank of ‘Assistant Commissioner’ can request the suspension of a carriage service, if there is an imminent threat to someone’s life or health. CSPs reported the suspension of 31 carriage services in 2014–15, up from 22 in 2013–14.

4.4 Interception

The content of communications between users of telecommunications services is strictly protected in Australia as one of the most crucial areas of telecommunications privacy protection. Interception may only be authorised by law enforcement and national security agencies in accordance with a warrant under the TIA Act. Interception for other purposes is prohibited, with criminal penalties applicable for breaches of the TIA Act.

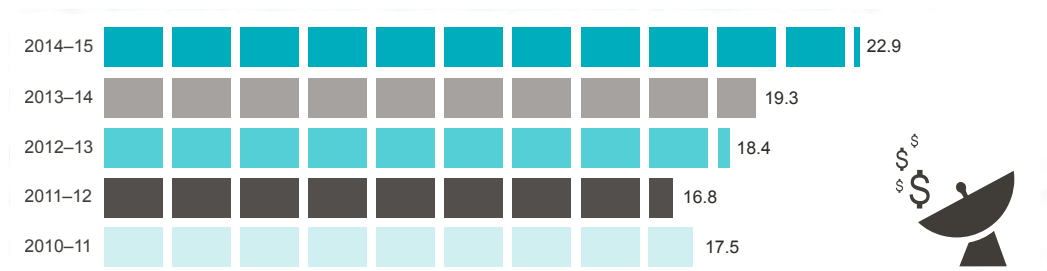
Cost of providing assistance

Section 314 of the Telecommunications Act applies if a carrier or carriage service provider is required to provide help to an agency. Such persons must comply with a requirement on the basis that the person neither profits from, nor bears the costs of, giving that help.

Chapter 5 of the TIA Act obliges carriers and CSPs to ensure that their networks, facilities and carriage services are capable of enabling communications to be intercepted upon presentation of an interception warrant.¹ This obligation includes a requirement to develop, install and maintain an interception capability. Under section 207 of the TIA Act, carriers and CSPs are responsible for the costs associated with providing interception capability in their networks.

In 2014–15, the cost to industry of providing interception capability was reported to the ACMA as \$22.9 million (Figure 4.2), an increase of approximately 18 per cent from 2013–14.

Figure 4.2 Cost of providing interception capabilities (\$ million)



Source: ACMA annual industry data request.

Interception capability plan compliance

Under sections 196 and 197 of the TIA Act, carriers and nominated CSPs must lodge an interception capability plan by 1 July each year with the Communications Access Co-ordinator (CAC) in AGD.² The ACMA's role is to enforce this obligation.

During the reporting period, AGD referred five carriers to the ACMA for enforcement action in relation to these provisions. Of these referrals:

- > one carrier submitted its interception capability plan to the CAC following the ACMA's request that it comply with its legislative obligations
- > one carrier was deregistered by the Australian Securities and Investments Commission and therefore had its licence cancelled by the ACMA
- > three carriers surrendered their carrier licences.

4.5 Identity checking requirements for prepaid mobile carriage services

Under the Telecommunications (Service Provider—Identity Checks for Prepaid Mobile Carriage Services) Determination 2013, CSPs are required to obtain and verify identity information about the purchasers or service activators of prepaid mobile services. The determination allows CSPs to use up to eight methods to verify identity information. Two additional verification methods were approved by the ACMA in December 2014, estimated to lead to an annual saving to industry of \$6.2 million in compliance costs.

As part of its 2014–15 compliance program, the ACMA reviewed the written arrangements that a number of CSPs have in place to comply with the determination. The program resulted in potential compliance issues being raised with three of the nine CSPs that were selected to participate in this compliance activity. Two CSPs contacted by the ACMA immediately refined their processes to address the potential compliance issues. The ACMA is monitoring the implementation of the remedial action proposed by the remaining CSP as a priority.

4.6 Role of the Integrated Public Number Database (IPND)

The IPND is a telecommunications industry-wide database of all listed and unlisted public numbers and their associated customer data. Law enforcement agencies and emergency services regularly access customer data from the IPND and it is critical that the data is accurate for these purposes. The IPND is managed by Telstra.

Telstra reported that the IPND contained 66.2 million connected services at 30 June 2015, an increase of just over two per cent on the 64.8 million records held one year previously.

CSP compliance with IPND requirements

The ACMA's compliance program includes a package of measures developed to improve compliance by CSPs with their IPND-related regulatory obligations and, in so doing, improve the quality and completeness of data contained in the IPND.

In 2014–15, the ACMA continued its key compliance activity of monitoring, on a monthly basis, the percentage of customer records each data provider has in the IPND with one or more errors, as identified by the IPND Manager. This monitoring resulted in the ACMA raising compliance issues with 16 CSPs. All 16 CSPs contacted by the ACMA have taken steps to improve the quality of the customer data they provide to the IPND Manager.

Southern Phone Company (SPC) enforceable undertaking and direction to comply with TCP Code

In May 2015, the ACMA directed Southern Phone Company (SPC) to comply with clause 4.6.3 of the C628:2012 *Telecommunications Consumer Protections Code* (the TCP Code). This followed an

investigation that found SPC failed to protect the privacy of its customers' personal details after it incorrectly classified 3,869 silent numbers in the IPND. The error resulted in those silent numbers and the associated name and address details, being published in authorised public number directories (but not being published in the White Pages produced by Telstra).

The ACMA also found SPC had breached the Telecommunications Act and the C555:2008 *IPND Industry Code* by failing to provide accurate information to the IPND. The ACMA subsequently accepted an enforceable undertaking from SPC to address the non-compliance with the IPND requirements under the Telecommunications Act.

The enforceable undertaking commits SPC to:

- > upgrade its data collection processes
- > engage an independent auditor to review its IPND processes
- > instigate a comprehensive education and training program
- > report regularly to the ACMA for two years.

SPC cooperated fully with the ACMA during the investigation and acknowledged that the ACMA had reasonable grounds to make the findings.

4.7 Handling of life-threatening and unwelcome communications

The C525:2010 *Handling of Life Threatening and Unwelcome Communications* industry code sets out obligations on carriers, CSPs and the NRS provider in responding to requests from customers and police to resolve life-threatening situations and unwelcome communications.

During the reporting period, the TIO confirmed that it had found no breaches under this code and that new complaint issues declined from 523 to 413, a 21 per cent decrease compared to the previous year.

4.8 Submarine cable protection

Submarine cables carry the bulk of Australia's international voice and data traffic and contribute significantly to the Australian economy. At present there are nine international submarine cables connecting Australia to many countries around the world.

Schedule 3A to the Telecommunications Act enables the ACMA to declare protection zones over nationally significant submarine cables and to prohibit or restrict activities that pose a risk of damaging cables in these zones. The legislation establishes offences for damaging a cable or for breaching prohibitions and restrictions, and creates penalties for these offences.

Australia currently has three submarine cable protection zones—two located off the Sydney coast and one located off the Perth coast.

No requests for new submarine cable protection zones were considered during 2014–15. However, applications made in July 2015 regarding proposed new installations off the Sunshine Coast indicate that this is an area of renewed activity.

The legislation also provides for a permit regime that requires carriers to obtain a protection zone installation permit (PZ permit) from the ACMA to install a new submarine cable inside a protection zone or a non-protection zone permit (NPZ permit) to install an international submarine cable outside of a protection zone.

Three NPZ permits were granted during 2014–15. All three authorised the installation of international submarine cables in waters off the west coast of Australia.

One PZ permit was also granted during 2014–15 to install an international submarine cable via the Perth Protection Zone to Indonesia and Singapore.

The ACMA granted three requests to extend an existing PZ permit and one request to extend an existing NPZ permit for a single international submarine cable to be installed between Perth and Singapore. Multiple extensions of the permit were required because of delays in obtaining overseas regulatory approvals.

4.9 Radiocommunications interference complaints

The performance of wireless services depends on the management of interference across wireless networks and devices. Under the *Radiocommunications Act 1992*, the ACMA investigates complaints about interference to licensed radiocommunications. The ACMA classifies interference as either domestic systems or radiocommunications interference.

Domestic systems interference

Domestic systems interference (DSI) refers to interference to the reception of radio or television broadcasting, usually in domestic premises. It also encompasses audio interference caused by nearby radio transmitters, such as those used by citizen band or amateur radio operators, or from other radio services with a transmitter located nearby. Household equipment is the major contributing source of DSI.

During 2014–15, there were 475 DSI complaints to the ACMA, significantly fewer than in 2013–14, and in line with complaint levels of previous years (Figure 4.3). Seventy-two per cent of DSI complaints were about terrestrial digital television interference and 28 per cent about other domestic systems interference. The large proportion of digital television interference complaints can be associated with the move to digital-only reception. The peak in DSI complaints in the 2013–14 year may reflect a combination of factors, including the increased use of non-compliant LED downlights.

Twelve per cent of DSI complaints resulted in compliance action by the ACMA in 2014–15.

Radiocommunications interference

Radiocommunications interference is interference affecting a radiocommunications receiver used for non-broadcasting purposes, such as public safety, commercial and recreational services.

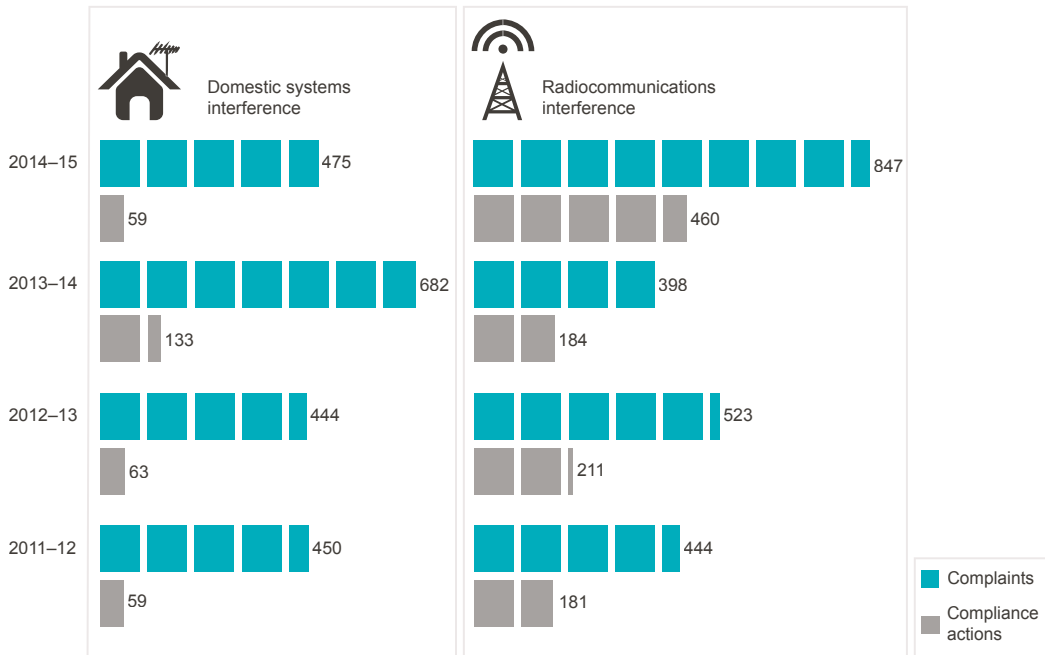
During 2014–15, mobile telephone services continued to be more affected by interference than any other type of service. Complaints of interference to 3G and 4G mobile services reduced slightly compared to the previous year, while complaints about 2G (GSM) mobile services remained similar.

The number of radiocommunications interference complaints more than doubled in the year to June 2015, rising from 398 in 2013–14 to 847 in 2014–15 (Figure 4.3). Radiocommunications transmitters continue to be the significant source of interference. During the reporting period, there was an increase in compliance actions involving issuing advice and warning notices. These compliance actions were generally effective and required no further action.

ACMA radiocommunications compliance program

The decrease in DSI compliance actions is the result of an increase in the efficiency of the ACMA's radiocommunications compliance program. Since the introduction of the ACMA's targeted priority compliance area program in 2012, the ACMA has been able to reduce the number of radiocommunications investigations conducted by adapting its resource allocation to reflect the variable risk levels associated with interference and harm in the communications environment. The reduction in the number of investigations has been offset by an increase in the number of warning notices and infringement notices issued.

Figure 4.3 Domestic systems interference and radiocommunications interference complaints and compliance actions



Base: Number of complaints and compliance actions.

Source: Domestic system interference and radiocommunications interference complaints to the ACMA.

Endnotes

¹ The definition of a carrier under section 5 of the TIA Act includes CSPs for these provisions.

² Nominated CSPs are CSPs covered by a declaration in force under subsection 197(4) of the TIA Act.

Chapter 5: Telecommunications consumer safeguards and quality of service

5.1 Overview

This chapter addresses regulatory requirements to report on the efficiency of the supply of telecommunications service, the adequacy and quality of these services, and carrier obligations with respect to codes and standards. The chapter presents analysis and information about the telecommunications industry's performance in meeting key regulatory obligations, including the Telecommunications (Customer Service Guarantee) Standard 2011 (CSG Standard), the Network Reliability Framework (NRF), provision of priority assistance to customers, number portability, telemarketing and spam investigations, industry compliance with telecommunications codes, and trends in Telecommunications Industry Ombudsman (TIO) complaints.

In summary:

- > all qualifying carriage service providers met the Customer Service Guarantee (CSG) performance benchmarks
- > there was a six per cent increase in the number of telephone numbers listed on the Do Not Call Register (DNCR) to more than 660,000 numbers in 2014–15, taking the amount of numbers listed to 10.26 million
- > there was a 10.4 per cent decline in the number of complaints to the TIO, down to 124,417 new complaints in 2014–15
- > there were declines in the total number of payphones (down 7.8 per cent in 2014–15 to 25,876) and the number of fixed-line services covered by the CSG Standard (down 3.1 per cent to 6.34 million services)
- > there was a decrease in the amount of compensation paid to customers as a result of failing to meet CSG Standard time frames, down 27.6 per cent to \$5.85 million
- > there was a 41 per cent increase in the number of local numbers ported (up to 1.22 million) and a three per cent increase in the number of mobile phone numbers ported (up to 1.72 million)
- > there was an increase in the average number per day of computer infections reported under the Australian Internet Security Initiative (AIS), up from an average of 25,839 per day in 2013–14 to 26,645 per day in 2014–15.

5.2 Telecommunications Industry Levy (TIL) and telecommunications public policy outcomes

The TIL funds the residual costs (after government funding) of the payment of contractors and grant recipients, and eligible administrative costs, to ensure continuity of key telecommunications safeguards.

In particular, this levy provides funding for:

- > reasonably accessible standard telephone services and payphone services to all Australians on an equitable basis, wherever they reside or carry on business (the universal service obligation or USO)
- > a national telephone service to enable people who are deaf or have a hearing and/or speech impairment to make and receive telephone calls (the National Relay Service or NRS) wherever they reside or carry on business
- > end users of standard telephone services in Australia to have access, free of charge, to an emergency call service

> delivery of other public policy telecommunications outcomes, for example, untimed local calls.

The ACMA is responsible for the billing and collection of the TIL, while the Telecommunications Universal Service Management Authority (TUSMA) managed the contractual arrangements and service provider payments up to the end of the 2014–15 financial year. On 1 July 2015, TUSMA was abolished and functions were transferred to the Department of Communications.¹

Industry levies and payments

The TIL amount of a licensed telecommunications carrier is the amount which that carrier must contribute to the cost of funding the activities previously undertaken by TUSMA, and which are now undertaken by the Department of Communications and the Arts. For the purposes of the TIL, a ‘participating person’ is a carrier with eligible revenue in excess of \$25 million. Carriers who submit an eligible statutory declaration by 31 October and whose revenue is less than \$25 million are not assessed for the TIL. Contributions are, in general, proportionate to that participating person’s share of the industry’s total eligible revenue for the relevant period.

The ACMA manages the assessment and collection of levies over a three-year cycle (Figure 5.1).

Figure 5.1 Collection and assessment of levies



Final TIL assessment

Following advice from TUSMA, the Minister for Communications determined on 24 September 2014 that the amount of TIL to be collected for the 2013–14 ELP was \$221,000,000. The ACMA subsequently issued invoices and the full amount was collected during the 2014–15 financial year.

There were 223 licensed telecommunications carriers in the 2013–14 ERP and, of these, 52 were assessed as participating persons for the 2014–15 ELP. The Secretary of the Department will determine the amount of TIL to be collected for the 2014–15 ELP and invoices will be issued in the 2015–16 financial year.

5.3 Public payphones

Payphone services in Australia are provided on either a commercial basis or as part of the universal service obligation (USO). Telstra is the current primary universal service provider (PUSP) for payphones and it must comply with payphone performance standards and benchmarks made by the minister under the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (the TCPSS Act).

The ACMA monitors Telstra’s payphone performance and also receives information about the number of payphones supplied or operated on a commercial basis by other providers.

Numbers of payphones and payphone sites

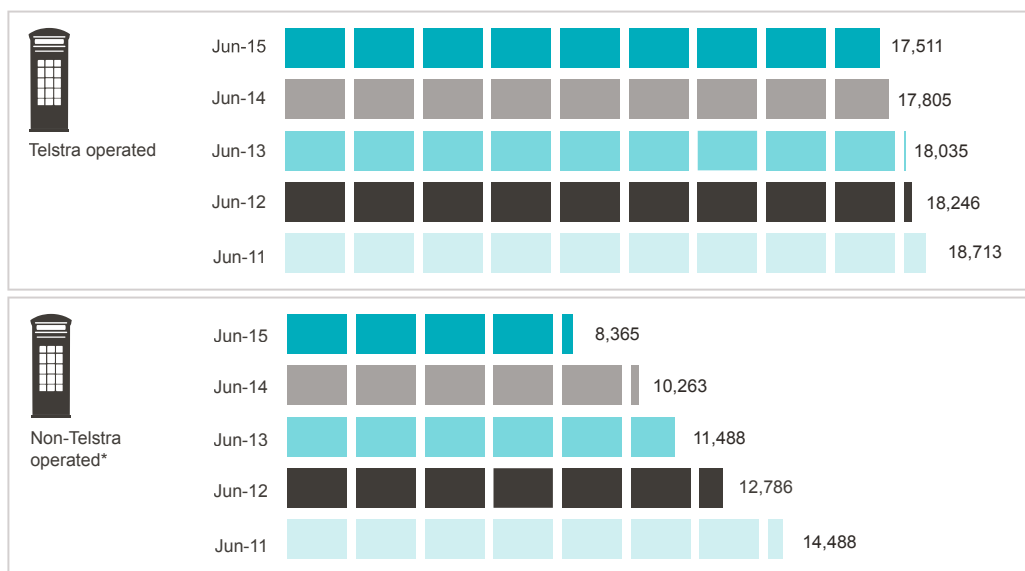
During 2014–15, the total number of payphones (both Telstra-operated and privately operated) in Australia fell by 7.8 per cent from 28,068 to 25,876. This comprised a:

- > net decrease of 1.7 per cent in the number of Telstra-operated payphones, from 17,805 to 17,511
- > net decrease of 18.5 per cent in the number of privately operated payphones, from 10,263 to 8,365.

During the reporting period, there was an increase of 1.7 per cent in the number of Telstra-operated payphone sites, from 14,915 to 15,170 (noting some sites have more than one payphone). At 30 June 2015, 67.7 per cent of payphones were operated by Telstra. The remaining payphones were provided by other companies, such as hotels, clubs and convenience stores.

Figure 5.2 shows that, while the total number of Telstra-operated and non-Telstra-operated payphones has decreased over the past five reporting periods, the annual rate of Telstra payphone removals has slowed over the same period. The net annual reduction in Telstra-operated payphones has declined from 467 payphones in the 2011–12 reporting period to 294 payphones in 2014–15.

Figure 5.2 Number of payphones in operation at 30 June



*Includes TriTel payphones (until June 2014) and payphones provided via Telstra access lines. June 2015 data includes Telstra access lines only as the number of TriTel payphones was not available.

Source: Telstra and TriTel.

Table 5.1 provides the geographic distribution of Telstra payphones and payphones provided via Telstra access lines as at 30 June 2015.

Table 5.1 Distribution of Telstra payphones by geographical category, 30 June 2015

	Urban	Rural	Remote*	RIC
Telstra-operated payphones	11,929	4,727	855	579
% of total	68.1	27.0	4.9	3.3
Other payphones (provided via Telstra access lines)	6,667	1,345	353	251

*Including remote Indigenous communities (RIC).

Source: Telstra.

Payphone fault repair performance

Timely repair of payphone faults is an important component of the equitable provision of payphone services under the USO.

Regulatory benchmarks are in place to measure Telstra's performance in remediating faults under the Telecommunications Universal Service Obligation (Payphone Performance Benchmarks) Instrument (No. 1) 2011 (Payphone Performance Benchmarks). The time frames vary according to the location of the service—one working day for urban locations, two for rural and three for remote locations (including remote Indigenous communities). Failure to meet a benchmark may result in the ACMA taking compliance action.

Table 5.2 shows that Telstra met the national payphone performance benchmarks in urban, rural and remote areas in 2014–15.

Table 5.2 Telstra payphone fault repair performance, 2014–15

	Urban (%)	Rural (%)	Remote (%)*
Payphone fault repair benchmark	90.0	90.0	80.0
Fault repair performance	96.8	95.3	92.8

*Including remote Indigenous communities.

Source: Telstra.

Payphones for people with disabilities

At 30 June 2015, Telstra had 153 teletypewriter payphones in operation in metropolitan and regional areas, the same as the previous year.

5.4 Customer Service Guarantee Standard

The Telecommunications (Customer Service Guarantee) Standard 2011 (the CSG Standard) sets minimum service standards for carriage service providers (CSPs) in installing, repairing and meeting appointments for standard telephone services for residential and small business customers. The CSG Standard allows for exemptions from meeting service standards under certain circumstances. If a CSP fails to meet the minimum performance standards, compensation may be payable to the customer.

At 30 June 2015, there were 6.34 million services subject to the CSG Standard, compared to 6.54 million at 30 June 2014—a decline of 3.1 per cent (Table 5.3).

Table 5.3 Services subject to the CSG Standard by provider at 30 June

	2011 ('000)	2012 ('000)	2013 ('000)	2014 ('000)	2015 ('000)
iiNet	370*	493	418	443	473
Optus	930	913	850	799	808
Primus	115	103	101	95	49
Telstra	5,828	5,608	5,314	5,038	4,757
Dodo	n/a	n/a	n/a	159	249
Total	7,243	7,117	6,683	6,535	6,335

n/a=not applicable.

**iiNet acquired AAPT's Consumer Division on 1 October 2010 and Adam Internet on 5 August 2013.*

Note: Numbers may not add up due to rounding.

Source: CSP data.

CSG performance benchmarks are established by the Telecommunications (Customer Service Guarantee—Retail Performance Benchmarks) Instrument (No. 1) 2011 and apply to 'qualifying carriage service providers' (QCSPs). QCSPs are those that have 100,000 CSG services or more, as at the last day of the preceding financial year. For the 2014–15 reporting year, the QCSPs were Telstra, Optus, iiNet, and Dodo.

The national CSG performance benchmarks set minimum compliance levels with the CSG Standard time frames, which are set out in Table 5.4 and relate to the following activities:

- > installing new connections in urban, major rural, minor rural and remote areas
- > installing in-place connections in all areas
- > fault rectifications in urban, rural and remote areas
- > appointment-keeping in all areas.

The CSG Standard time frames vary according to the location of the customer and, in the case of connections, whether infrastructure is readily available and whether there is an existing in-place connection. There are nine annual benchmarks in total for connections, fault repair and appointment-keeping where QCSPs must meet a minimum 90 per cent benchmark.

If a QCSP fails to meet any of the annual CSG performance benchmarks, the ACMA may take compliance action, which includes the option to issue the QCSP with an infringement notice.

At June 2015, there were 867,270 occasions nationally where customers of the major CSPs waived their rights under the CSG Standard. TPG accounted for 62 per cent of waivers, and iiNet 31 per cent.

Table 5.4 CSG Standard time frames (working days)

	In-place connection	New service connection		Fault repair
		Close to infrastructure	Not close to infrastructure	
Urban	2	5	20	1
Major rural	2	10	20	2
Minor rural	2	15	20	2
Remote	2	15	20	3

Note: 'Urban' is defined as communities with 10,000 or more people, 'major rural' is defined as communities with between 2,500 and 10,000 people, 'minor rural' is defined as communities with between 200 and 2,500 people, 'remote' is defined as communities with up to 200 people.

Source: CSG Standard.

CSG benchmark performance

Table 5.5 shows CSP performance in 2014–15 in meeting CSG Standard time frames for new service connections and for in-place service connections.

A 'new service connection' is the connection of a standard telephone service to premises where there is the need for additional work to be completed (for example, cabling) before a service can be connected. This excludes in-place service connections where there has been a previous working CSG service that is available for reconnection or reactivation by the CSP.

Table 5.5 Percentage and number of new service and in-place connections provided within CSG Standard time frames, 2014–15

		New service*				In-place service*
		Urban areas	Major rural areas	Minor rural areas	Remote areas	All areas
iiNet	%	94.8	97.2	96.4	96.5	96.9
	No.	64,817	3,788	1,645	55	76,879
Optus	%	97.8	98.4	99.1	NQCSP	n/a
	No.	208,932	784	445	NQCSP	n/a
Dodo	%	100	100	100	NQCSP	100
	No.	20,247	1,254	930	NQCSP	85,371
Telstra	%	94.5	95.8	95.2	93.0	95.8
	No.	307,105	34,119	16,753	787	261,567

NQCSP=Not a qualifying CSP (QCSP).

n/a=not applicable.

*Service connections.

Note 1: Commencing in 2012–13, QCSPs were required to record the number of requests that were not complied with within the applicable performance time frames and to identify if the CSP's failure to do so was wholly or partly attributable to one or more acts or omissions by another CSP.

Note 2: Location-specific thresholds are met if a QCSP supplied 10,000 or more CSG services in urban areas, 1,000 or more CSG services in major rural areas, 1,000 or more CSG services in minor rural areas, 500 or more CSG services in remote areas.

Source: CSP data.

Appointments and fault repairs

Table 5.6 shows CSP performance in 2014–15 in meeting the CSG Standard for fault repair time frames and appointment-keeping.

Table 5.6 Percentage and number of faults repaired within CSG Standard time frames and appointment-keeping performance, 2014–15

		Fault repairs			Appointments*
		Urban areas	Rural areas	Remote areas	All areas
iiNet	%	98.1	97.4	97.5	99.7
	No.	66,151	12,064	119	58,953
Optus	%	97.0	95.5	NQCSP	98.6
	No.	152,175	363	NQCSP	254,076
Dodo	%	100	100	NQCSP	100
	No.	34,757	5,940	NQCSP	23,004
Telstra	%	93.4	93.4	95.2	96.7
	No.	499,364	151,052	2,698	422,056

NQCSP=Not a qualifying CSP (QCSP).

*New service connections and fault repairs.

Note 1: Commencing in 2012–13, QCSPs were required to record the number of requests that were not complied with within the applicable performance time frames and to identify if the CSP's failure to do so was wholly or partly attributable to one or more acts or omissions by another CSP.

Note 2: Location-specific thresholds are met if a QCSP supplied 10,000 or more CSG services in urban areas, 1,000 or more CSG services in rural areas, 500 or more CSG services in remote areas.

Source: CSP data.

Table 5.7 shows the number of new service and in-place connections, fault repairs and appointments for iiNet, Optus, Primus, Telstra and Dodo over the previous two financial years (2013–14 and 2014–15).

Table 5.7 Number of new service connections, in-place connections and fault repairs requested and appointments made at the national level

	iiNet		Optus		Dodo		Telstra	
	2013 –14	2014 –15	2013 –14	2014 –15	2013 –14	2014 –15	2013 –14	2014 –15
New service connections	61,954	74,031	148,525	214,914	13,670	22,441	352,947	379,187
In-place connections	78,581	79,341	n/a	n/a	64,868	85,371	300,488	273,050
Fault repairs	69,805	79,926	147,310	157,292	32,228	40,712	756,478	699,072
Appointments*	6,439 [†]	59,140 [†]	227,683	257,745	16,415	23,004	355,733	436,288

n/a=not available.

**New service connections and fault repair.*

†Appointment activity in NSW/ACT and Victoria.

Source: CSP data.

CSG Standard payments

As a result of failing to meet CSG Standard time frames during 2014–15, CSPs made compensation payments to customers as shown in Table 5.8.

Table 5.8 Volume and value of compensation payments made by CSPs to customers

	2013–14		2014–15	
	Volume	\$ (million)	Volume	\$ (million)
iiNet	11,740	1.12	35,247	1.33
Optus	19,944	1.10	19,712	1.36
Primus	2,273	0.08	1,563	0.05
Telstra	106,038	5.65	56,114	2.81
Dodo	3,030	0.12	7,459	0.31
Total	143,025	8.08	120,095	5.85

Note: Commencing in 2012–13, qualifying CSPs were required to record the number of requests that were not complied with within the applicable performance time frames and to identify if the CSP's failure to do so was wholly or partly attributable to one or more acts or omissions by another CSP. Numbers may not add up due to rounding.

Source: CSP data.




Compensation payments totalled \$5.85 million for 2014–15, compared to a total of \$8.08 million during 2013–14—a decrease of 27.6 per cent.

Exemptions from the CSG Standard

During periods when circumstances beyond a CSP's control affect its ability to comply with the CSG Standard, the CSP may claim an exemption from compliance with the CSG Standard. Similarly, a CSP may also claim an exemption if there is a need to move staff or equipment to an area affected by circumstances beyond its control. Many exemptions are the result of extreme weather events or natural disasters. The number of exemptions for the major CSPs for 2014–15 are shown in Table 5.9.

A total of 317 exemptions were claimed by the major CSPs in 2014–15. This is 36 per cent more than the 234 exemptions claimed in 2013–14. The median duration for which CSG exemptions applied increased in 2014–15 (34 days) compared to 2013–14 (26 days).

Table 5.9 Numbers of CSG exemptions for the major CSPs, 2014–15

Reason for exemption	iiNet group	Optus	Telstra	M2Group*
 Extreme weather conditions	73	71	69	69
 Natural disasters	1	1	2	1
 Other	6	7	9	8
Total	80	79	80	78

*Exemption notifications for Primus, Dodo, Eftel, Commander, aaNet and Engin have been included in M2 Group notifications.
Source: CSP data.

5.5 Network Reliability Framework (NRF)

The ACMA monitors the reliability of Telstra's fixed-line telephone service network under the NRF. The NRF applies only to services that Telstra provides to its CSG Standard-eligible customers. Telstra is required to report to the ACMA on the performance of its network and to fix poorly performing cable runs and individual services.

The NRF requires monitoring and/or remedying network reliability performance at three levels:

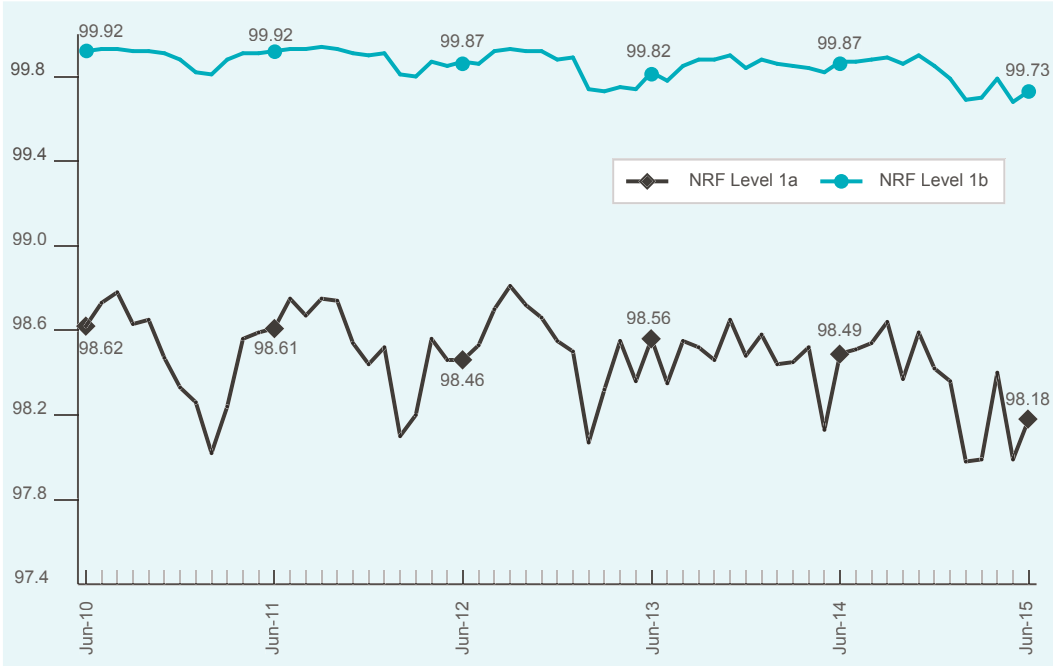
- > Level 1—national and geographical area level, based on Telstra's 44 field service areas (FSAs)
- > Level 2—local level, cable runs in disaggregated parts of the network
- > Level 3—individual service level that includes all Telstra services covered by the CSG Standard.

Level 1 is designed to inform the public about overall network reliability performance. Under levels 2 and 3, Telstra is required to remediate poorly performing parts of its network as a priority.

Level 1—national and field service area performance

Telstra's national performance data is presented in Figure 5.3. Level 1a shows the percentage of CSG Standard services that did not experience a fault during the month reported. Level 1b shows the percentage of time in a month that CSG Standard services, on average, are available.

Figure 5.3 Telstra’s Level 1a and 1b performance, based on monthly reports (percentage)



Base: Number in each category.
 Source: ACMA, Telstra.

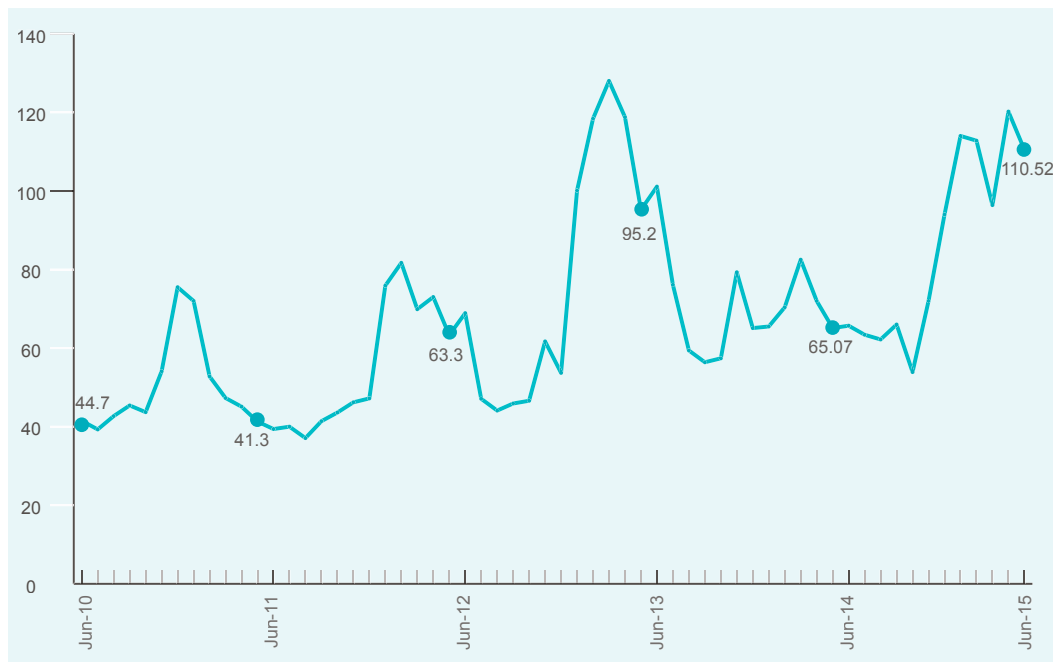
Under Level 1a, FSAs in urban areas experienced a lower percentage of faults than those in non-urban areas. On average, 1.58 per cent of services experienced a fault in any given month in urban areas, compared to 1.73 per cent in non-urban areas. Figure 5.4 shows the seasonal nature of NRF Level 1a performance. It should be noted that small changes in this figure represent relatively large changes in the number of faults occurring on the network.

Level 1b measures the percentage of time in a month that services (on average) are available; that is, not awaiting repair. In 2014–15, services were available, on a monthly average, 99.80 per cent of the time (nationally), whereas in 2013–14 services were available, on a monthly average, 99.85 per cent of the time (nationally).

The ACMA also uses data provided under Level 1 of the NRF to calculate the average time (in hours) for fault-affected CSG Standard services to be repaired for the month (Level 1c—Figure 5.4). Level 1c measures the average number of hours Telstra took to restore fault-affected services in the month. While Level 1b takes into account all services, Level 1c only considers services that experienced a fault.

In terms of elapsed time, it took an average of 86 hours to restore services that had a fault in 2014–15 compared to an average of 71 hours in 2013–14. It took an average of 76 hours to restore fault-affected services in urban areas and 94 hours in non-urban areas in 2014–15. This is compared to 64 hours to restore fault-affected services in urban areas and 79 hours in non-urban areas in 2013–14.

Figure 5.4 Level 1c—average time for Telstra to restore fault-affected services (hours)



Source: ACMA, Telstra.

Level 2—local cable run remediation

Level 2 of the NRF requires Telstra to report on and undertake remediation work on the 40 poorest performing cable runs—a set of 10 or 100 copper wire pairs within a physical cable sheath—each month.

During 2014–15, Telstra completed remediation and monitoring of 558 cable runs, some of which were identified for remediation in previous reporting periods. For the year, Telstra identified the required 480 cable runs to be remediated. Telstra also remediated an additional 417 cable runs associated with the reported cable runs. This number is slightly less than in 2013–14, when it remediated an additional 479 cable runs. Telstra estimated that remediation work undertaken as part of Level 2 of the NRF in 2014–15 improved the reliability of 26,607 services compared to the 32,238 services that benefited from remediation under Level 2 of the NRF in 2013–14.

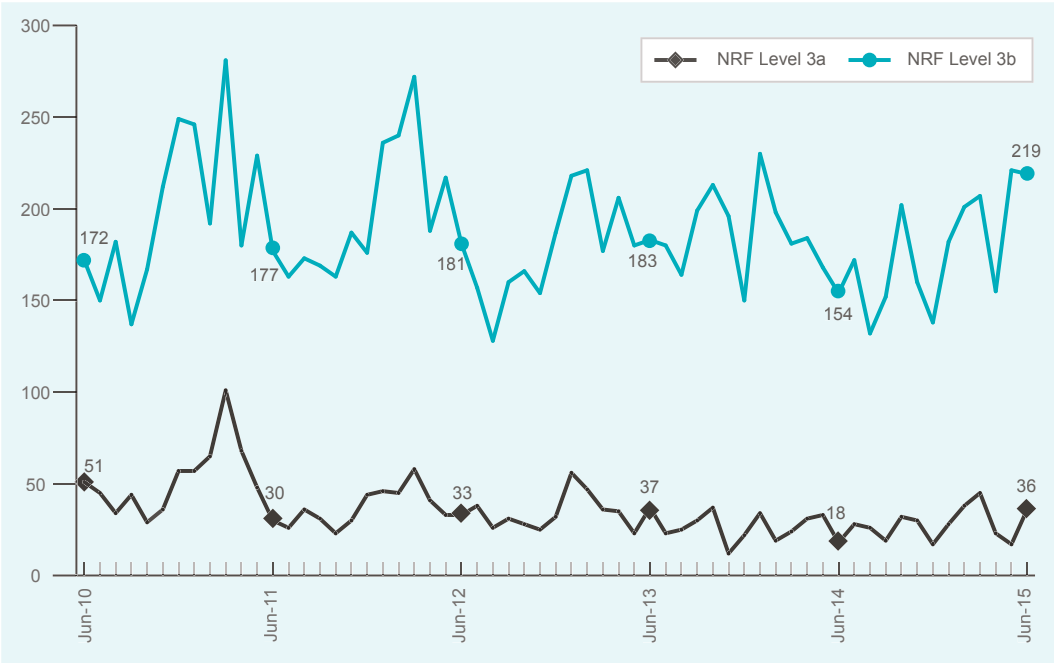
Level 3—individual service performance

Telstra is required to take action to prevent an individual CSG Standard-eligible service from experiencing more than either three faults in a rolling 60-day period (NRF Level 3a) or four faults in a rolling 365-day period (NRF Level 3b).

Telstra reports to the ACMA on any services that breach these thresholds, investigates the performance of the service, and then undertakes necessary remediation.

Figure 5.5 shows that the number of services experiencing four or more faults in a rolling 60-day period (Level 3a) or five or more faults in a rolling 365-day period (Level 3b).

Figure 5.5 Telstra CSG Standard services with four or more faults in a rolling 60-day period (Level 3a) and with five or more faults in a rolling 365-day period (Level 3b)



Base: Number of services.

Source: Telstra.

Telstra has reported a slight increase in the number of services experiencing breaches of the 60-day threshold, with 28 breaches per month (on average) and a total of 339 for the 2014–15 reporting period. In 2013–14, Telstra reported an average of 26 breaches per month and a total of 308 for the year.

Telstra also reported a slight decrease in the number of services experiencing breaches of the 365-day threshold, with 178 breaches per month (on average) and a total of 2,141 for 2014–15. This compares to 2013–14 when 185 breaches per month (on average) and a total of 2,217 for the year were reported.

Telstra is required to remediate any service that breaches the fault thresholds and then monitor that service for an eight-month period. If a service experiences another fault (known as a monitoring-period fault) during the monitoring period, Telstra must report this to the ACMA together with an assessment of whether the fault is related or unrelated to the original fault(s) that caused the contravention. In 2014–15, Telstra reported 809 monitoring-period faults (across 633 individual services) and assessed 28 faults as related to the original contravention. This compares to 636 monitoring-period faults (across 558 individual services) reported and 22 faults assessed as related to the original convention in 2013–14.

Additionally, each service reported under Level 3 is required to undergo remediation. Telstra is required to report to the ACMA on the expected date for completion of the remediation and to report quarterly any services where remediation has not been completed within the expected time frames. In 2014–15, Telstra reported 368 delays to remediation (that is, where remediation was not completed within the expected time frames), with an average reported delay to remediation of 152 days. Some services were reported as experiencing more than one delay.

5.6 Priority assistance

Priority assistance is a priority telephone connection and repair service for people with a diagnosed life-threatening medical condition, who are at risk of suffering a rapid and life-threatening deterioration in their condition. Telstra offers the service as a requirement of its carrier licence conditions. Other CSPs may offer priority assistance services but are not obliged by regulation to do so. In 2014–15, Primus was the only CSP to voluntarily offer priority assistance services in line with industry code ACIF: C609:2007 *Priority Assistance for Life Threatening Medical Conditions*.

The number of priority assistance customers is presented in Table 5.10. During 2014–15, the number of priority assistance customers decreased by 8.7 per cent. Telstra is due to implement its new priority assistance policy in the first part of 2015-16.

Table 5.10 Number of priority assistance customers, at 30 June

	2011	2012	2013	2014	2015
Provisional	54,152	91,009	144,435	49,679	63,505
Validated	134,822	130,341	112,114	154,940	123,240
Total	188,974	221,350	256,549	204,619	186,745

Source: Telstra, Primus.

Priority assistance customers are given faster connections and fault repairs of their fixed-line telephone service than the connection and fault repair time frames mandated in the CSG Standard. A service must be connected or a fault repaired within 24 hours in urban and rural areas or 48 hours in remote areas. Figures 5.11 and 5.12 provides information about the performance of Telstra and Primus in meeting priority assistance time frames for connections and fault repairs since 2010–11.

Table 5.11 Priority assistance—percentage and volume of connection requests completed on time, by financial year

		National		Urban		Rural		Remote	
		%	Volume	%	Volume	%	Volume	%	Volume
Telstra	2010–11	93.3	50,833	93.5	37,894	92.8	12,611	88.8	325
	2011–12	91.6	40,881	91.8	30,618	91.5	9,970	83.8	295
	2012–13	92.9	42,700	92.9	32,536	92.9	9,886	89.1	277
	2013–14	93.2	34,675	93.3	26,980	92.9	7,467	88.8	222
	2014–15	92.4	34,185	92.3	26,495	92.6	7,504	93.1	175
Primus	2010–11	100	178	100	141	100	37	n/a	0
	2011–12	100	63	100	56	100	7	n/a	0
	2012–13	100	112	100	90	100	22	n/a	0
	2013–14	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
	2014–15	100	2	n/a	0	100	2	n/a	0

n/a=not available.

n/r=not requested.

Note: 'Urban' is defined as communities with 10,000 or more people, 'rural' is defined as communities with between 200 and 10,000 people, 'remote' is defined as communities with up to 200 people.

Source: Telstra.

Table 5.12 Priority assistance—percentage and volume of fault restoration requests completed on time, by financial year

		National		Urban		Rural		Remote	
		%	Volume	%	Volume	%	Volume	%	Volume
Telstra	2010–11	92.9	n/a	94.3	n/a	89.8	n/a	87.1	n/a
	2011–12	94.6	130,946	95.7	95,586	92.0	34,855	93.8	469
	2012–13	95.5	155,378	96.6	114,800	92.3	40,045	92.0	502
	2013–14	95.1	116,552	96.1	89,205	92.1	26,988	90.9	390
	2014–15	94.6	133,563	95.7	102,803	91.1	30,348	94.0	425
Primus	2010–11	100	513	100	384	100	129	n/a	0
	2011–12	92.9	113	93.2	88	92.0	25	n/a	0
	2012–13	84.0	58	90.0	40	72.2	18	n/a	0
	2013–14	n/r	n/r	n/r	n/r	n/r	n/r	n/r	0
	2014–15	100	7	100	6	n/a	0	100	1

n/a=not available.

n/r=not requested.

Note: 'Urban' is defined as communities with 10,000 or more people, 'rural' is defined as communities with between 200 and 10,000 people, 'remote' is defined as communities with up to 200 people.

Source: Telstra.

5.7 Number portability

Number portability allows a customer to keep an existing telephone number when changing service provider. It is available for:

- > local numbers (numbers beginning with the area codes 02, 03, 07 and 08)
- > freephone (numbers beginning with 1800) and local rate numbers (numbers beginning with 13 and 1300)
- > mobile numbers.

Local number portability

During 2014–15, 1.22 million local numbers were ported. This represents a significant increase (41 per cent) from the 865,522 local numbers ported in 2013–14. Table 5.13 shows there has been a considerable increase of local number ports since 2010–11 (702,369). The Communications Alliance C540:2013 *Local Number Portability Code* (LNP Code) sets out carrier/CSP operational procedures for porting local numbers. Communications Alliance is continuing to consider LNP arrangements in an nbn environment.

Freephone and local rate number (FLRN) portability

Industry Number Management Services Ltd (INMS) is an industry-owned not-for-profit company that allocates 13/1300/1800 numbers (FLRNs) on behalf of the ACMA (excluding smartnumbers auctioned by the ACMA). The INMS also facilitates the portability of all FLRNs on behalf of the industry. There were 12,495 FLRNs ported during 2014–15, a 13 per cent increase on the 11,088 FLRNs ported during 2013–14 (Table 5.13).

Mobile number portability

Mobile number portability enables a mobile telephone user to retain a mobile number when changing from one mobile provider to another. Most mobile ports are completed within a few hours. During 2014–15, there were 1.72 million ports, an increase of three per cent on the 1.67 million ports completed in 2013–14. Mobile number portability is regulated by the provisions of the C570:2009 *Mobile Number Portability Code* developed by Communications Alliance.

Table 5.13 Number portability

Numbers ported	2010–11	2011–12	2012–13	2013–14	2014–15
Local	702,369	627,160	763,422	865,522*	1,223,599
Freephone and local rate	18,830	12,814	13,096	11,088	12,495
Mobile	1,896,016	2,627,350	1,743,485	1,668,163	1,721,284

*Figure revised due to one CSP submitting updated data.

Source: ACMA and INMS.

5.8 Cabling regulation

Registered cablers

All individual cablers who perform customer cabling work connected to the telecommunications network, or intended for use on the customer side of the network boundary, must either be registered with an ACMA-accredited registrar as a cabling provider or supervised by a person who is registered.

Table 5.14 shows that the total number of registered cablers in the industry has increased each year since 30 June 2010.

Table 5.14 Total number of licenced/registered cablers

	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15
Number of cablers	64,587	65,696	67,637	69,155	71,057	71,288

Source: ACMA.

In 2014–15, there were five ACMA-accredited registrars providing registration and other associated services to cablers.

Cabling compliance

The ACMA investigates complaints about non-compliant cabling work or work performed by unregistered cablers. Where appropriate, the ACMA conducts investigations arising from these complaints.

During 2014–15, the ACMA received 40 cabling-related complaints mainly about contraventions of the Telecommunications Cabling Provider Rules 2000 or alleged unregistered cablers. During the period, the ACMA also conducted 14 cabling inspections. The ACMA issued two warning notices under the Telecommunications Act 1997 (the Act) for unregistered cabling and four warning notices for non-compliant cabling. There were no telecommunications infringement notices issued.

5.9 Do Not Call Register (DNCR)

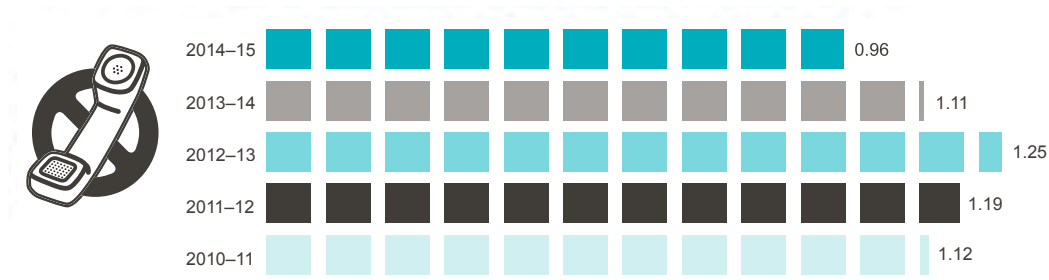
The DNCR is a secure database that allows people to list their numbers to opt out of receiving most unsolicited telemarketing calls and marketing faxes. A number is eligible to be registered if it is:

- > used or maintained primarily for private or domestic purposes
- > used for transmitting and/or receiving faxes
- > used exclusively by a government body
- > an emergency service number.

In 2014–15, 660,000 numbers were added to the DNCR, taking the total amount of numbers listed on the register to 10.26 million.

To avoid breaching the *Do Not Call Register Act 2006* (DNCR Act), telemarketers and fax marketers are able to submit their contact lists to the DNCR operator for checking, or ‘washing’, against the DNCR. During 2014–15, 1,096 telemarketers and fax marketers submitted over 960 million numbers for checking (Figure 5.6).

Figure 5.6 Numbers submitted for checking against the DNCR (billions)



Base: Numbers submitted for checking.

Source: Register operator (service Stream Solutions Pty Ltd) reports to the ACMA.

5.10 Unsolicited communications—spam and telemarketing

The ACMA is responsible for compliance and enforcement of the DNCR Act, the *Spam Act 2003* (Spam Act), the Telemarketing and Research Industry Standard 2007 and the Fax Marketing Industry Standard 2011. This regulation is designed to minimise the impact on Australians of unsolicited telemarketing, fax marketing and commercial electronic messages including email, SMS, MMS and instant messaging.

In 2014–15, the number of telemarketing complaints received by the ACMA fell by 10.6 per cent. The overall number of fax marketing complaints remained very low, decreasing by a further 57 per cent.

The number of complaints and reports about commercial electronic messages (spam) received by the ACMA in 2014–15 increased slightly, by 0.87 per cent.

Complaints and reports from Australian consumers about unsolicited communications are used by the ACMA to identify businesses that may be in breach of the legislation. In addressing business non-compliance, the ACMA takes a graduated approach that begins with educating, advising or informally

warning businesses that may potentially be in breach of the legislation. The ACMA has found that the majority of businesses address compliance issues after just one contact from the ACMA advising of suspected non-compliance. When businesses do not respond favourably to these informal communications, cases may be escalated, including to formal investigations.

Table 5.15 below summarises the number of complaints, reports and enquiries received by the ACMA and the levels of the ACMA's compliance and enforcement activity.

Table 5.15 Summary of complaints, reports, enquiries, compliance activities and enforcement

		2013–14	2014–15	Change (%)	
Complaints and reports*	Telemarketing complaints	20,232	18,081	-10.6	
	Fax marketing complaints	230	99	-57.0	
	Spam	Email complaints	1,087	1,341	+23.4
		Email reports	337,730	342,607	+1.4
		SMS complaints	300	388	+29.3
		SMS reports	8,862	6,689	-24.5
	Total	368,441	369,205	+0.2	
Enquiries	Telemarketing & fax marketing	11,335	12,113	+6.9	
	Spam	1,340	1,337	-0.2	
	Telemarketing and spam subtotal	12,675	13,450	+6.1	
	Telemarketing & fax marketing	Advisory letters	940 [†]	880	-6.4
		Informal warnings	114 [†]	82	-28.1
	Spam	Informal warnings	4,697 [†]	6,918	+47.3
	Total	5,751	7,880	+37.0	
Investigations	Telemarketing	5 [†]	5	0.0	
	Fax marketing	0	0	n/a	
	Spam	10	4 [†]	-60.0	
	Total	15	9	-40.0	

n/a=not available.

*Complaints are an expression of dissatisfaction made to the ACMA about unsolicited emails or SMS whereas reports are an advice of spam activity directed to the ACMA's anti-spam databases. Reports are not actioned individually but assist the ACMA in its anti-spam activities.

[†]Revised from previous year.

Source: ACMA.

5.11 Cybersecurity

The Australian Internet Security Initiative (AISI) is a voluntary program operated by the ACMA to assist AISI participants—generally Australian ISPs, educational institutions and other organisations with assigned IP ranges—to address the problem of computing devices that are ‘compromised’ by malware (or malicious software). Malware compromises enable malicious actors to steal personal and sensitive information from these devices and control them remotely for illegal or harmful purposes, without the users’ knowledge. These infections often enable activities causing harm to other internet users, including the mass distribution of spam, hosting of phishing sites, facilitation of identity theft, participation in dedicated denial of service attacks and dissemination of ransomware (malware that blocks access to a computer system until a sum of money is paid).

The AISI provides daily reports to participants about malware-infected computing devices residing on their networks. When they receive a report of an infection, AISI participants are expected to contact their customers or users, inform them that their computing devices are infected, and provide information to help restore these devices to safe operation. Participants can also access AISI compromise data relating to their networks through an online portal, which contains more comprehensive data than that contained in the daily AISI email reports.

At 30 June 2015, there were 140 participants in the AISI, with these participants estimated to cover more than 95 per cent of allocated Australian IP address ranges. A total of 9.73 million observations of infections were reported to AISI participants in 2014–15—averaging 26,645 per day, compared to 25,839 in 2013–14.

In March 2015, the ACMA commenced the reporting of services vulnerable to known exploits—such as websites, network attached storage devices and home routers—that potentially allow a malicious actor to intercept communications occurring through that device to steal sensitive information, such as communications relating to a financial transaction. These services are generally ‘vulnerable’ as they permit the use of outmoded and insecure encryption standards.

Approximately 106,000 vulnerable IP addresses were reported per day to AISI members from 13 March to 30 June 2015. This extension to the AISI helps home and small business users by improving the security level of the Australian web services with which they undertake transactions. It also helps raise the security levels of home routers through alerting home users to vulnerabilities in this equipment. The feedback from AISI participants has been generally positive about the reporting of vulnerability data through the AISI program. However, the large number of services reported each day indicates a need for a greater industry focus on maintaining security levels on these services.

The AISI is complemented by the iCode, which commenced operating on 1 December 2010, and is designed to provide a consistent approach for Australian ISPs to help inform, educate and protect their customers against cybersecurity risks. The AISI is specified in the iCode as one of the methods that ISPs should use to detect malware infections in their networks.

A further cybersecurity activity of the ACMA is an automated system for reporting suspected ‘phishing’ URLs extracted from spam emails reported to the ACMA. Phishing emails direct internet users to fraudulent web pages that represent themselves as belonging to legitimate businesses, such as banks. Their main function is to obtain financial and personal information from unsuspecting internet users for criminal purposes.

Recipients of the ACMA’s phishing reports include the Australian Tax Office, Facebook, Telstra and a number of major financial institutions. A total of 43,520 reports of suspected phishing URLs were provided to these organisations in 2014–15. To enable quick and early action, phishing reports are provided within minutes of being received by the ACMA.

5.12 Telecommunications codes—development and review

Under Part 6 of the Act, the ACMA may register codes developed by industry bodies. At 30 June 2015, 20 codes were registered, comprising:

- > 19 codes developed by Communications Alliance
- > the Cabling Requirements for Business Code, developed by the Cabling Industry Committee.

In 2014–15:

- > CA commenced a review of the Telecommunications Consumer Protections (TCP) Code 2012 (the TCP Code) focusing on customer information requirements
- > CA completed a review of the Mobile Premium Services (MPS) Code (the MPS Code). The revised MPS Code was registered by the ACMA on 20 October 2014.
- > the Internet Industry Spam Code of Practice was deregistered (16 October 2014).

5.13 Industry compliance with telecommunications codes

Compliance with the TCP Code

Telecommunications companies demonstrated high levels of compliance with the TCP Code across a range of audits and investigations. For the period 1 July 2014 to 30 June 2015:

- > 27 advertisements from 17 different providers were reviewed and found to be compliant with the advertising requirements of the TCP Code.
- > while compliance with Critical Information Summary (CIS) requirements was down from 90 per cent in the previous year to 69 per cent, the majority of non-compliant CISs required only minor changes to make them compliant. The ACMA will continue to monitor compliance in this area.

Communications Compliance (CommCom) requires providers to promote code awareness, lodge annual compliance documents, and prepare and maintain a compliance plan. Under the TCP Code, companies providing services to consumers must submit compliance statements to CommCom by 1 April each year. In 2014–15, 391 providers submitted code compliance statements to CommCom, up from 224 in 2013–14.

For the period 1 July 2014 to 30 June 2015, 15 telecommunications companies received directions to comply with the TCP Code. These were issued to:

- > Sure Telecom Pty Ltd, M and E Alchi Family Trust, operating as Business Class Telecom, and Tele-Talk Pty Ltd—for failing to comply with sales practice and customer transfer provisions
- > SoleNet Pty Ltd—for failing to comply with the customer transfer provisions
- > Vocaltone Networks Australia Pty Ltd, Spinktel, Reeds Internet & Telecom Pty Ltd, Pivit Pty Ltd, Oz Talk Communications Pty Ltd, Netbay Internet Pty Ltd, Max Telecom Pty Ltd, iTalk (Australia) Pty Ltd, HomeLinX Pty Ltd, E-Tel Communications Pty Ltd, and David John Esmond T/a Aunix—for failing to comply with requirements to provide compliance statements to CommCom in 2014.

In addition, a total of 42 formal warnings were issued to:

- > Harbour Technology (HotNet) Pty Ltd—for inadequate Critical Information Summaries
- > iiNet Ltd and Dodo Services Pty Ltd—for failing to comply with direct debit provisions
- > another 39 providers following referrals from CommCom for failing to lodge compliance statements.

5.14 Industry compliance with TIO scheme

Section 128 of the TCPSS Act requires carriers and eligible CSPs to join the TIO scheme. The scheme provides for the resolution of unresolved complaints about carriers or CSPs made by residential and small-business customers where those complaints are not resolved by the CSP/carrier. Eligible CSPs are those providers who supply fixed standard telephone, mobile or internet services to residential and small-business customers. TIO scheme members are required to comply with the scheme.

From 1 July 2014 to 30 June 2015, the TIO referred 21 companies that had not joined the TIO scheme to the ACMA. At 30 June 2015, 17 firms joined the scheme as a result of TIO referrals to the ACMA, though some of these referrals were made in the previous reporting year.

Investigations into TIO scheme membership led to four directions to comply with section 128 the TCPSS Act issued to:

- > Compare Communications Australia Pty Ltd
- > Tru Telecom Pty Ltd
- > 123 Group Pty Ltd
- > Netfast Communications Pty Ltd.

Both Compare Communications and Tru Telecom subsequently joined the TIO scheme, complying with the terms of the ACMA directions. Further enforcement action against the other two firms is under consideration.

The remaining referrals are either the subject of ongoing ACMA inquiries/investigations or were not pursued as the relevant company had ceased operating as a CSP.

Following a referral from the TIO in June 2014, the ACMA commenced an investigation into Planet ISP Pty Ltd, which had failed to comply with the TIO scheme by not refunding a customer \$5,115.26 in call charges, following the theft of a mobile phone in South Africa. The ACMA's investigation found that Planet ISP had failed to comply with a determination made by the TIO and had therefore failed to comply with the TIO scheme, the TCPSS Act, and subsequently the service provider rules set out at clause 1 of Schedule 2 to the Act. The ACMA issued a direction to comply with the TIO scheme to Planet ISP, which refunded the amount to the customer on 2 April 2015.

5.15 Complaints to the TIO

There were 124,417 new complaints made to the TIO during 2014–15, down by 10.4 per cent from 2013–14. The most significant decrease in complaints was for mobile services—down by 29 per cent on the previous year, and less than half the level recorded in 2011–12. Complaints about fixed-line and internet services were also down (one per cent and two per cent on the previous year respectively), but complaints about mobile premium services were up 22 per cent from 2013–14, noting this was from a low base (Figure 5.7).

The TIO records a new complaint when it receives an expression of dissatisfaction from a consumer whose complaint has not been resolved by the service provider. The TIO identifies and allocates complaint issues within each new complaint from a choice of keywords that are aligned to industry codes or common complaint categories identified by the TIO. As such, each new complaint involves at least one complaint issue and often more than one.

Figure 5.7 Annual TIO new complaints by service type



Source: TIO.

Table 5.16 shows the top six TIO new complaint issues for the last five financial years. The number of complaint issues in each category has fallen in 2014-15.

Table 5.16 Top six TIO new complaint issues

Complaint issue category	2010-11	2011-12	2012-13	2013-14	2014-15	2013-14 to 2014-15 change (%)
Billing and payments	115,595	109,502	78,160	76,587	66,128	-14%
Customer service	92,548	93,941	94,639	75,033	58,674	-22%
Faults	84,087	78,829	75,325	54,055	47,860	-11%
Complaint handling	94,749	65,818	50,504	46,469	36,938	-21%
Contracts	n/a	n/a	n/a	37,430	34,021	-9%
Credit management	43,139	52,907	46,138	40,040	29,999	-25%

n/a=not available prior to 2012-13.

Source: TIO.

5.16 Communications infrastructure regulation

When installing large telecommunications facilities, such as mobile phone towers, carriers generally need to obtain local council planning permission and comply with relevant state and territory planning laws. Schedule 3 to the Act allows licensed carriers to install a limited range of facilities referred to as ‘low-impact facilities’ without seeking state or territory approval. Low-impact facilities as defined in the Ministerial Telecommunications (Low-impact Facilities) Determination 1997 are considered to be unobtrusive.

While low-impact facilities are exempt from local government planning laws, carriers must still comply with Schedule 3 to the Act and the Telecommunications Code of Practice 1997, which includes notifying land owners and occupiers of their activities, ensuring minimal detriment and damage is caused by the activity and restoring the land to a similar condition before the activity began.

Complaints to the TIO

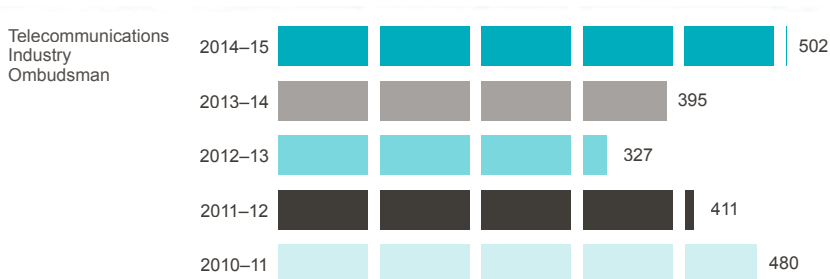
The TIO can consider objections to land access, and the installation and maintenance of low-impact facilities. The majority of land access complaints to the TIO relate to damage to property by carriers. During the reporting period, the TIO received a total of 502 new complaints (not including enquiries)—a 27 per cent increase from the 2013–14 reporting period—and completed 106 investigations (Figure 5.8).

Of the new complaints received by the TIO during 2014–15:

- > 354 were from owners/occupiers of land about alleged damage to property by the provider
- > 52 were from owners/occupiers of land about carriers billing them for damage to cables allegedly caused by the owner/occupier
- > 32 related to the standard of service from providers when installing subscriber connections
- > 50 related to the absence of carrier notice for land entry, failure to bring the notice to the landowner/occupier’s attention, or where the landowner/occupier was not allowed to object to the land entry
- > 11 were formal objections to the low-impact facility activity by the landowner/occupier
- > three were premature objections.

Of the 11 objections, the TIO made directions to carriers in nine cases, and in one case found that the carrier notice did not comply with legislative requirements and the land access activity could not proceed.

Figure 5.8 Facility installation complaints/land access complaints received by the TIO



Source: TIO.

5.17 Mobile phone base stations

Optus, Telstra and VHA are the three carriers that operate mobile phone networks in Australia. When installing mobile phone base stations, these carriers are required to comply with the C564:2011 *Mobile Phone Base Station Deployment Code* (the industry code). The industry code supplements the requirements already imposed on carriers under the existing legislative scheme by requiring them to consult with local communities and to adopt a precautionary approach in planning, installing and operating mobile phone base stations.

The mobile communications industry has developed a national database of mobile phone base stations—the National Site Archive—to improve access to information about the deployment of mobile phone infrastructure across Australia. The archive contains information about most mobile phone towers deployed by carriers and includes electromagnetic energy reports about communications facilities. This information is available at www.rfnsa.com.au.

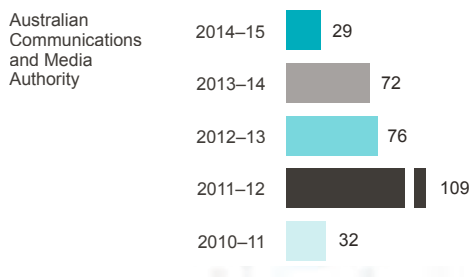
Complaints and enquiries to the ACMA

Complaints about carriers' compliance with the industry code are directed to the carriers in the first instance. The industry code specifies mandatory processes for complaints-handling by carriers. The ACMA examines complaints against the code and may take regulatory action under Part 6 of the Act.

During the reporting period, the ACMA received 29 enquiries related to the industry code (Figure 5.9). Carriers undertook a total of 5,867 consultations during this period.

The ACMA received 25 enquiries about matters covered by Schedule 3 to the Act and the industry code. Additionally, the ACMA received four enquiries relating to the deployment of fixed-wireless internet facilities not falling into other categories.

Figure 5.9 Facility installation enquiries and complaints received by the ACMA



Source: ACMA.

Endnotes

¹ The Department of Communications became the Department of Communications and the Arts on 21 September 2015.

Glossary

2G—second generation mobile telecommunications

Mobile telecommunications services that use digital techniques, providing voice communications and a relatively low transmission rate for data. Denoted by the introduction of the digital encryption of telephone conversations and of mobile data services with SMS text messaging. See also **GSM**.

3G—third generation mobile telecommunications

Broadband mobile telecommunications services with improved data rates over their 2G predecessors providing for applications such as web-browsing, video conferencing and location-based services.

4G—fourth generation mobile telecommunications

Enhanced broadband mobile telecommunications services which are expected to provide increased bandwidth to support voice, video, data and high quality streaming multimedia content over an all IP network. See also **LTE**.

ABC—Australian Broadcasting Corporation

Free-to-air national broadcaster of ABC radio and television channels, as well as online services, funded by the Australian Government.

ABS—Australian Bureau of Statistics

Commonwealth body responsible for collecting, analysing and publishing Australian demographic data.

ACCC—Australian Competition and Consumer Commission

Commonwealth regulatory body with responsibilities derived from the *Competition and Consumer Act 2010* (formerly the *Trade Practices Act 1974*).

ACE—Australian Communication Exchange

A national non-for-profit organisation that currently provides the relay component of the National Relay Service.

ACMA—Australian Communications and Media Authority

Commonwealth regulatory authority for broadcasting, online content, radiocommunications and telecommunications, with responsibilities under the *Broadcasting Services Act 1992*, the *Radiocommunications Act 1992*, the *Telecommunications Act 1997* and related Acts. Established on 1 July 2005 following a merger of the Australian Communications Authority and the Australian Broadcasting Authority.

ADSL—asymmetric digital subscriber line

A transmission technology that enables high-speed data services to be delivered over a twisted pair copper line, typically with a download speed in excess of 256 kbit/s, but with a lower upload data speed.

AFP—Australian Federal Police

Australia's national police force. The ACMA works with the AFP on email spam and illegal internet content such as online child sexual abuse material that is hosted outside Australia.

AISI—Australian Internet Security Initiative

Collects data from various sources on compromised computers (sometimes referred to as 'zombies', bots or 'drones'). The ACMA analyses this data and provides free daily reports to participating Australian internet service providers (ISPs) identifying IP addresses operating on their networks that appear to be compromised.

auDA—.au Domain Administration

Independent industry self-regulatory body responsible for the .au domain name space.

bit/s—bits per second

Rate of transfer of data. A bit (binary digit) is the basic unit of data able to represent one of two values. See also **Gbit/s**, **kbit/s**, **Mbit/s**.

broadband

High-speed internet access that is always on and faster than traditional dial-up access. Broadband is implemented through a range of technologies such as optical fibre, Digital Subscriber Line (DSL), HFC, cellular mobile, fixed wireless and satellite.

cable—hybrid fibre coaxial (HFC) cable

Transmission links consisting of optical fibre on main routes, supplemented by coaxial cable closer to the end user's premises.

carrier

The holder of a telecommunications carrier licence in force under the *Telecommunications Act 1997*.

catch-up TV

Internet service typically provided on free-to-air and subscription broadcasters' websites enabling users to watch a recent episode of a television program over the internet for a limited period of time.

CEASA—Commercial Economic Advisory Service of Australia

An information research company specialising in media, economic, marketing and advertising research, surveys and publications.

cloud computing

Internet-based computing where data and applications are hosted online, stored on remote servers and available to clients on demand through broadband internet-enabled devices.

Communications Alliance (CA)

Telecommunications industry organisation formed on 1 September 2006 from the merger of the Australian Communications Industry Forum (ACIF) and the Service Providers Association Network (SPAN).

CSG—Customer Service Guarantee

Standard providing for financial compensation to customers where requirements set out in the CSG Standard are not met.

CSP—carriage service provider

Person supplying or proposing to supply certain carriage services to a customer, including a commercial entity acquiring telecommunications capacity or services from a carrier for resale to a third party. Under the *Telecommunications Act 1997*, internet and subscription TV service providers fall within the definition of carriage service providers.

CTS—Children's Television Standard

A standard designed to provide access for children (aged under 14 years) to quality television programs made specifically for them. The standard regulates timing and scheduling of children's programs and content of adjacent programming.

DAB—Digital Audio Broadcasting

A digital radio broadcasting standard. Australia is using an upgraded version of this standard called DAB+ to broadcast digital radio in Adelaide, Brisbane, Melbourne, Perth and Sydney. DAB+ uses the same spectrum currently used to deliver both analogue and digital television services.

data traffic

Volume of data transferred in both directions between a customer and their ISP. Data traffic is measured in bytes.

DoC—Department of Communications

Former name of Commonwealth department responsible for, among other things, communications policy and programs. See **DoCA**.

DoCA—Department of Communications and the Arts

Since September 2015, Commonwealth department responsible for, among other things, communications policy and programs, formerly known as Department of Communications (DoC).

dial-up internet service

Service in which subscribers connect to the internet via a modem and dial-up software utilising the PSTN or an ISDN connection.

digital television

The transmission of television (audio and video) via digital signals, serving as a replacement technology for analog services.

digital radio

Method for the digital transmission of radio signals for digital radio reception. Digital radio services have been operating in Sydney, Melbourne, Brisbane, Adelaide and Perth since July 2009.

DNCR—Do Not Call Register

Register established by the ACMA that allows individuals to register their home and mobile numbers to opt out of receiving most unsolicited telemarketing calls and faxes, with limited exemptions for public interest organisations.

DSI—domestic systems interference

Interference to the reception of radio or television broadcasting, usually in domestic premises.

ECP—emergency call person

Nominated organisation responsible for handling emergency calls. For calls made to Triple Zero (the primary emergency call number) and 112 (the international emergency number for GSM and WCDMA mobile phones), the ECP is Telstra. For calls made to the 106 text service (for people who are Deaf or have a hearing or speech impairment), the ECP is Australian Communication Exchange (ACE).

ESO—emergency service organisation

Organisation providing an emergency service—police, ambulance or fire service.

fixed-line telephone service

Covers the delivery of voice services over a copper pair-based PSTN access network or fixed-line broadband networks.

FLRN—freephone and local rate number

Telephone numbers commencing with the digits 1800 (freephone) or 13 (local rate).

Free TV Australia

Industry body that represents Australia's commercial free-to-air television licensees, and is responsible for developing and reviewing the Commercial Television Industry Code of Practice.

FSA—field service area

One of 44 broad geographic regions in Telstra's fixed telephone network.

FSAM—Fibre Serving Area Module

An area that is passed or intended to be passed by nbn fibre. From 23 May 2014, the nbn began replacing most existing fixed-line telephone links, ADSL internet and Telstra cable internet services (HFC) in the first 15 fibre Serving Area Modules (SAMs).

FTA TV—free-to-air television

Broadcast television services where the signal is delivered without charge to the viewer.

GB—gigabyte

One billion bytes. Each byte is eight bits.

Gbit/s—gigabits per second

Data transfer rate of a billion bits per second. See also **bit/s**.

geographic numbers

Numbers used to provide access to local telephone services and related voicemail and facsimile services. Also known as local numbers.

GSM—global system for mobile communications

The second generation mobile digital technology originally developed for Europe, but now used globally.

INHOPE—Internet Hotline Providers in Europe Association

International forum for internet hotlines to exchange information and experience. Member hotlines deal with complaints about illegal internet content, particularly online child sexual abuse material. The ACMA is an INHOPE member.

interception

The interception of telecommunications services for the purpose of law enforcement and national security.

internet telephony

See **VoIP**.

internet users

See Appendix A—Research methodology.

IP—internet protocol

The main routing protocol used in the internet—it operates at the logical network layer and is a code used to label packets of data sent across the internet, identifying both the sending and receiving hosts. IP is also used to designate data, traffic, services and equipment supported by or used in the internet.

IPND—Integrated Public Number Database

Database of number, name and address information about customers of telecommunications services in Australia, for all carriers and CSPs.

IPTV—internet protocol television

High-end multimedia services such as television, video and graphics delivered over managed IP-based networks that provide an acceptable level of Quality of Service (QoS)/Quality of Experience (QoE), security, interactivity and reliability.

ISDN—integrated services digital network

A high-speed network for carrying voice and data services in digital format over the PSTN. Can be considered as an evolutionary step between dial-up and today's broadband internet services.

ISP—internet service provider

A CSP offering internet access to the public or another service provider.

kbit/s—kilobits per second

Data transfer rate of 1,000 bits per second. See also **bit/s**.

local numbers

See **geographic numbers**.

low-impact facilities

Communications facilities that are considered to have a low impact on their environment. They include underground cabling, small radiocommunications antennas and dishes, in-building subscriber connections and public payphones. The *Telecommunications Act 1997* provides carriers with immunity from state and territory planning laws for the installation of 'low-impact' facilities.

LTE—Long Term Evolution

A suite of radio and core network specifications for the enhancement of mobile networks beyond 3G capabilities. Generally regarded as **fourth generation mobile telecommunications (4G)**.

M2M—machine-to-machine

M2M communications is used for automated data transmission and measurement between mechanical or electronic devices using wired and wireless networks. Much of the M2M information is delivered in the form of sparse data, which can come from sensors and other non-IT devices.

MB—megabyte(s)

One million bytes.

MHz—megahertz

One million Hertz.

the minister—Minister for Communications

Minister responsible for the ACMA and its governing legislation, and the legislation that the ACMA administers.

MMS—multimedia messaging service

Mobile telecommunications data transmission service for sending messages with a combination of text, sound, image and video to MMS-capable handsets.

MPS—mobile premium services

Content information and entertainment services delivered to a mobile phone that includes both premium SMS/MMS and mobile portal services.

National Classification Scheme

A cooperative arrangement between the Commonwealth and the states and territories, under which the Classification Board classifies films (including videos and DVDs), computer games and certain publications.

nbn—NBN Co Limited

The company established to design, build and operate the national broadband network.

nbn network—national broadband network

The national wholesale-only open access data network in Australia offering high-speed broadband to all Australian premises using a multi-technology mix constructed by NBN Co Limited (nbn).

NCD—nominated carrier declaration

Declaration made by the owner of a telecommunications network unit (facilities or infrastructure for delivery of telecommunications services) nominating a licensed carrier that will be responsible for the specified network unit.

NRF—Network Reliability Framework

Requirement on Telstra (since January 2003) to provide regular reports to the ACMA on the reliability of its fixed-line services, and to remediate the network in areas with particularly poor performance.

NRS—National Relay Service

Provides access to the standard telephone service for people with a hearing or speech impairment through the relay of voice, modem or TTY communications. Operates as a translation service between voice and non-voice users of the standard telephone service.

number portability

Arrangements allowing customers to transfer their telecommunications service from one service provider to another without changing their number. Number portability is available for local numbers, freephone and local rate numbers, and mobile numbers.

OTT—over-the-top services

A general term for services delivered over a network that are not offered by that network operator. These services ride on top of the infrastructure service and are provided independently of the network operator.

pay TV

See **subscription television**.

payphone

A public telephone where calls may be paid for with coins, phone cards, credit cards or reverse charge facilities.

portability

See **number portability**.

post-paid

A contract under which a user is charged on a periodic basis, depending on service usage during the previous billing period.

prepaid

A contract system by which users pay an amount up-front to purchase a certain amount of usage or credit.

PSTN—public switched telecommunications network

Public telecommunications network to provide telephone services to subscribers.

PUSP—primary universal service provider

See **USP—universal service provider**.

QCSP—Qualifying Carriage Service Provider

CSPs that have 100,000 or more services covered by the CSG Standard as at the last day of the preceding financial year.

RVA—recorded voice announcement

A pre-recorded audio message played to listeners; for example, the message now played to all callers to the Triple Zero (000) emergency service.

SAM—Serving area module

Defined, by nbn as part of their network architecture, as a geographical subset of premises to be served by the NBN.

SBS—Special Broadcasting Service

Free-to-air national radio and television broadcasting service providing multilingual and multicultural programs that inform, educate and entertain all Australians and, in doing so, reflect Australia's multicultural society. The SBS Online service also provides additional multilingual content through the internet.

SIO—services in operation

The number of services provided by a telephone company at a particular time. The term is used in the context of both fixed-line and mobile services.

smartnumbers

Specified freephone (1800) or local rate (13 or 1300) numbers allocated by auction and considered desirable because they can be translated to a phoneword or they have a memorable pattern.

smartphone

A mobile phone built on a mobile operating system, with more advanced computing capability and connectivity.

SMS—short message service

A mobile telecommunications data transmission service that allows users to send short text messages to each other using a mobile handset.

spam

Unsolicited commercial electronic messages that are sent by email, SMS, MMS and/or instant messaging.

standard telephone service

The telecommunications service defined as a carriage service providing voice telephony or an equivalent service that meets the requirements of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* and the *Disability Discrimination Act 1992*.

subscribers

ABS subscriber statistics measure the number of 'subscriber lines' rather than the number of 'users'. Counts of subscribers are not the same as counts of people/organisations with internet access. This is

because some subscribers may have accounts with more than one ISP or multiple accounts with a single ISP.

subscription television

Service providing access, for a fee, to television channels transmitted using cable, satellite or terrestrial microwave.

SVOD—subscription video on demand

An internet service that gives users unlimited access to a range of online video content at any time, for a flat monthly fee. Users can start and stop the program they are watching when they choose.

take-up

Adoption of a service or product by users.

TB—terabyte

One thousand gigabytes.

TIO scheme—Telecommunications Industry Ombudsman scheme

Industry-funded independent dispute resolution service, established in December 1993, for consumers unable to resolve complaints with their telecommunications carrier or CSP (including ISPs).

trigger event

Relates to commercial regional radio licences and includes a transfer of a licence, formation of a new registrable media group that includes a regional commercial radio broadcasting licence, or change of controller of a registrable media group that includes a regional commercial radio broadcasting licence.

TTY—teletypewriter

Telephone typewriter that allows communication to be typed after a call is connected, enabling people with a hearing or speech impairment to use voice telecommunications. Calls can be connected to another TTY user or relayed and translated to voice by the NRS.

URL—uniform resource locator

A unique address for accessing information and services over the internet.

USO—universal service obligation

Obligation under the *Telecommunications (Consumer Protection and Service Standards) Act 1999* to ensure that standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business.

USP—universal service provider

A nominated provider who receives government subsidies to provide a necessary service. Telstra is the primary USP and is responsible for fulfilling the universal service obligation throughout Australia.

VoIP—voice over internet protocol

The transport of voice traffic inside data packets over an IP network - used to make telephone calls using a data network (such as the internet) instead of over a fixed-line PSTN service.

Voice Over LTE (Long Term Evolution)

A standard allowing voice calls to be placed over an LTE network. In the absence of VoLTE, LTE networks generally only support a data service, with 2G or 3G networks used to support voice and other services such as SMS. With VoLTE, voice calls (and SMS text messages) are integrated into the 4G LTE data stream rather than the previous arrangement of reverting back to 3G. VoLTE also allows for multitasking, with simultaneous voice calls and 4G data connections. VoLTE also supports improved voice quality (HD Voice).

WiMAX—Worldwide Interoperability for Microwave Access

The IEEE 802.16 standards for broadband wireless access networks for multimedia applications with a wireless connection.

Appendix—Research methodology

Data sources

The survey data contained in this report is drawn from two main data sources: Surveys of the Australian population commissioned by the ACMA and Roy Morgan Research's Single Source product.

ACMA-commissioned surveys

The 2015 ACMA-commissioned surveys of consumers were conducted by Newspoll Research. The samples were taken from the Australian population aged 18 and over. Survey 1 was conducted from 30 April to 18 May 2015 (May-15 survey) with a sample of 1,810. Survey 2 was conducted from 21 May to 9 June 2015 (Jun-15 survey) with a sample of 1,505.

The ACMA conducted computer-assisted telephone interviewing (CATI) to both fixed-line and mobile phone numbers. Data from the 2015 ACMA-commissioned survey is sometimes compared with data from previous ACMA-commissioned surveys. In previous years, only one survey was conducted in each year.

The commonly used subsets for the ACMA-commissioned surveys from 2012 to 2015 are provided in Tables A1 and A2, below. The bases 'Accessed the internet' and 'Australians aged 18 and over' are used in a number of tables and figures in this report. 'Accessed the internet' refers to Australians aged 18 and over who have used any of a number of devices (including desktop computer, laptop computer, mobile phone, tablet, smart television and other common internet access devices) to access the internet in the past six months. The term 'internet users' is also used to describe this group.

Table A1 Research sample subsets for ACMA-commissioned surveys May-12 to Jun-15

	Fixed-line sample quota*	Mobile phone sample quota*	Accessed the internet	Australians aged 18 and over
Jun-15	1,130	375	n/a	1,505
May-15	1,359	451	1,675	1,810
May-14	1,323	477	1,673	1,800
May-13	2,003	405	2,161	2408
May-12	1,704	501	1,859	2205

n/a=not applicable.

*This sample reflects a nominated quota in the design of the survey.

Table A2 Research sample age subsets for ACMA-commissioned survey May-15

	Accessed the internet	Total
18–24	228	230
25–34	305	306
35–44	283	290
45–54	304	314
55–64	283	301
65+	267	364

Note: 'Refused' not included in the table (n=5).

Australian population

For the 2015 ACMA-commissioned surveys, the total population estimate for Australian adults aged 18 and over is 18,202,000, based on *ABS data table 3101.0 Australian Demographic Statistics, March 2015*.

Roy Morgan Single Source

Roy Morgan Research data is taken from the Roy Morgan Single Source product unless otherwise specified. This data covers changes occurring from July 2014 to June 2015 unless otherwise specified.

The Roy Morgan Single Source research sample sizes for the past five years are provided in Table A3.

Table A3 Research sample subsets for Roy Morgan Single Source

	Mobile-only phone	Australians aged 18 and over
Jun-15	3,392*	15,998
Jun-14	3,619*	15,241
Jun-13	3,783	19,365
Jun-12	3,000	19,798
Jun-11	2,100	17,626

*'Don't know/can't say' responses are included from June 2014 onwards due to change of survey methodology.

Note: 12 months to June for each year.

Australian population

For the 2015 Roy Morgan Single Source data, the total population estimate for Australian adults aged 18 and over is 18,290,000, based on *ABS data table 6202.0 Labour Force, Australia*.

Other sources

The endnotes list other information sources used in this publication.

Data analysis

Results from both data sets were analysed using descriptive analysis techniques, and by socioeconomic and demographic factors, to identify areas with significant patterns or differences.

Data presented in tables and figures may not add to 100 per cent (or the appropriate total) due to rounding. Percentage changes are calculated on non-rounded data.

Index

A

ACE Radio Broadcasters Pty Ltd 35
ACMA Communications report 2014–15 2
ACMA-commissioned surveys 135–6
acquisitions 28–9
advertising
 expenditure 4–5, 37–40
 online 4–5, 39–40
 radio 38–9
 TCP code 121
 television 38–9
allocation of numbers 11, 30–1
Amazon Prime 76
Amazon Web Services (AWS) 28
antenna coverage 19
anti-siphoning provisions 83
Apple iMessage 54–5
Apple TV 76
appointments 105–6, 107–9
apps *see* communications apps
asymmetric digital subscriber line (ADSL) 20
Attorney-General's Department (AGD) 94, 96, 97
auDA (.au Domain Administration Ltd) 25
audio content online 56, 57–8, 67
audio interference 99
audio streaming 67
Aunix 121
Australian Communications Exchange (ACE) 89, 92
Australian Competition and Consumer Commission (ACCC) 28, 94–5
Australian content on television 77–9
Australian Internet Security Initiative (AISI) 6, 120
Australian Radio Network Pty Ltd 33, 34, 35
Australian Tax Office 120

B

banking 56–7, 64
BigPond movies 71
billing and payments
 complaints 123
 consumer satisfaction 60–1
Blyton, Kevin 34
Broadband Commission for Digital Development 64
broadband internet
 data downloaded 3, 9, 47–8
 home 10, 43–4, 62–3
 international trends 64
 mobile wireless 7, 20, 21
 subscribers 3, 20
Broadcast Operations Pty Ltd 33, 35
broadcasting complaints 12, 84–5
broadcasting industry regulatory performance 6
broadcasting licences *see* licences
broadcasting services 31–2
 commercial 31–5

see also radio; television
Broadcasting Services Act 1992 (BSA) 33, 34, 66, 77, 79, 80, 82, 83, 84, 85
Broadcasting Services (Australian Content) Standard 2005 77, 78
Broadcasting Services (Regional Commercial Radio—Material of Local Significance) Licence Condition 2014 83
browsing internet 56–7, 64
Business Class Telecom 121
buying online 5, 56–7, 58–9

C

cable internet 20
cable runs 112
cablars, registered 117
cabling compliance 117–18
Cabling Industry Committee 121
cabling regulation 117–18
Cabling Requirements for Business Code 121
Call Plus Group 28, 29
call/service costs, consumer satisfaction 60–1
captioning television 80–2
 breaches 80–1
 compliance 80
 exemption orders 82
 Legislation amendments 82
 target reduction orders 82
carriage service providers (CSPs) 29
 allocation of numbers 30–1
 consumer safeguards 5
 disclosures of customer information 12, 94–5
 emergency call services 89
 emergency suspension 96
 fixed-line telephone services 14
 identity checking 97
 Integrated Public Number Database (IPND) 97
 interception 96–7
 number portability 117
 priority assistance 114
 Telecommunications Industry Ombudsman Scheme 122
 see also Customer Service Guarantee Standard
carrier licensing 29–30
carriers, licensed 8
CBRfree 22
Chairman's foreword 1
Chapman, Chris 1
child sexual abuse material 85, 87
children's programs 78–80
Children's Television Standards 2009 78
Chromecast 76
Cisco 28
Classification (Publications, Films and Computer Games) Act 1995 85
cloud services 28
commercial broadcasting services 32–5
Commercial Economic Advisory Service of Australia (CEASA) 37, 38
commercial radio broadcasting licences
 cross-media ownership 35–6
 local information on 83
 notification of changes of control 82

- numbers 11, 31–2, 35
- ownership and control 33–5
- commercial television broadcasters
 - Australian content 77–9
 - children's programs 78–80
- commercial television broadcasting, anti-siphoning events 83
- commercial television broadcasting licences
 - cross-media ownership 35–6
 - local information on regional 83
 - notification of changes of control 82
 - numbers 11, 31–2, 33
 - ownership and control 32–3
- Communications Alliance 85, 116, 117, 121
- communications apps
 - devices used 55–6
 - use of 53–5
- Communications Compliance (CommCom) 121
- communications services
 - accessing 44–52
 - consumer satisfaction 59–61
 - industry supply 13–41
 - international trends 62
 - take-up 43–4
 - use of 50–9
- community radio broadcasting licences 36
 - numbers 31–2, 36
 - temporary 31–2, 36
- community television broadcasting licences, numbers 31–2, 36
- community television services 36–7
 - transition 37
 - trials 37
- Compare Communications Australia Pty Ltd 122
- compensation payments, Customer Service Guarantee Standard 109
- complaint handling 123
- complaints
 - broadcasting 12, 84–5
 - domestic systems interference (DSI) 99–100
 - e-marketing 118–19
 - facility installation 124, 125
 - interactive gambling 87
 - interference 99–100
 - internet content 12
 - mobile phone base stations 125
 - online content 85–6
 - radiocommunications interference 99–100
 - spam 12, 118–19
 - telemarketing 12, 118–19
 - TIO complaints 5, 12, 122–3, 124
 - Triple Zero calls 91
- compliance
 - cabling 117–18
 - captioning television 80
 - Customer Service Guarantee Standard 5, 105–10
 - Integrated Public Number Database (IPND) 97–8
 - interception capability plan 97
 - notification of changes of control 82
 - Telecommunications Consumer Protection (TCP) Code 98, 121
 - Telecommunications Industry Ombudsman scheme 122
- computers
 - communications apps 56, 58
 - internet access 4, 45–6, 49–50

- connections 105–7, 109
 - priority assistance 114–15
- consumer engagement with communications 42–64
- consumer safeguards, and quality of service 101–25
- consumer satisfaction 59–61
- contactless tap-and-go payments 58
- content regulation, Australian content 77–9
- copper network switch-off 26–7
- credit management, complaints 123
- Critical Information Summary requirements 121
- cross-media ownership 35–6
- customer information disclosures 94–6
- customer service, complaints 5, 123
- Customer Service Guarantee Standard 5, 104–10
 - appointments 105–6, 107–9
 - benchmark performance 106–7
 - connections 105–6
 - exceptions 104, 110
 - fault repairs 105–6, 107–9
 - in-place connections 105–7, 109
 - new service connections 106–7, 109
 - qualifying carriage service providers (QCSPs) 105
 - services subject to 104–5
 - telephone services covered by 8
 - time frames 105–6, 109
 - waivers 8, 105
- cybersecurity 5–6, 120

D

- data allowances 48–9
- data downloaded 3, 47–8
 - volumes 3, 4, 9
- data network service numbers 31
- data plans 47, 48–9
- data speeds, consumer satisfaction 60–1
- Department of Communications 84, 102
- Department of Communications and the Arts 88, 128
- Department of Finance 25
- desktop computers
 - communications apps 56
 - internet access 45–6
 - internet activities 58
- dial-up internet 4, 20
 - data downloaded 47–8
- digital broadcasting 83–4
- digital mobile numbers 31
- digital radio 3, 84, 87
- Digital Radio Plus 67
- Digital Radio Report* 84
- digital services 8–10
- digital television 83–4
 - interference 99
- disclosures of customer information 12, 94–6
- Do Not Call Register Act 2006* 118
- Do Not Call Register (DNCR) 118
 - numbers added 5, 118
 - numbers submitted for checking 118
- documentaries, Australian content 77–9
- Dodo
 - appointments 108, 109
 - compensation payments 109
 - Customer Service Guarantee Standard 105, 107–9

- fault repairs 108, 109
- in-place connections 107, 109
- new service connections 107, 109
- as qualifying carriage service providers (QCSPs) 105
- TCP code 121

domain names registered 10, 25

domestic systems interference (DSI), complaints 99–100

drama

- Australian content 77–9
- expenditure scheme 79

E

e-commerce 5, 10, 56–9

eligible drama expenditure scheme 79

email 50–1, 56–7, 64

emergency call services 89–93

- disclosures of customer information to 95
- non-emergency calls 90
- number of calls offered 11
- 106 TTY (teletypewriter) text service 92–3
- 112 emergency calls 5, 90–1
- percentage of calls answered 11
- teletypewriters (TTY) 92–3
- Triple Zero calls 5, 90–1

emergency calls

- answering 5, 90–1, 92–3
- genuine 90–1, 92–3
- Global Positioning System (GPS) information 91, 92
- from mobile phones 5, 91, 92–3
- from payphones 90
- transfers 90–1
- via National Relay Service (NRS) 92–3
- volumes 90–1, 92–3

emergency service organisations (ESO) 89

- calls transferred to 90–1

emergency suspension of carriage services 96

Esmond, David John 121

E-Tel Communications Pty Ltd 121

European Commission 70

European Union 62–3

exceptions, Customer Service Guarantee Standard 104, 110

executive summary 3–6

EzyFlix 71

F

Facebook 50, 120

Facebook Messenger 54–5

FaceTime 54–5

facility installation complaints 124, 125

Fairfax Media Ltd 34, 35, 71

Family Friendly Filter scheme 85

fault repairs

- consumer satisfaction 60–1
- Customer Service Guarantee Standard 105–6, 107–9
- payphones 104

- priority assistance 114–15, 116

faults 110–13, 123

fax marketing 118–19

Fax Marketing Industry Standard 118

Fetch TV 71, 73

financial institutions 120

fixed-line broadband

- average download per subscriber 9
- data downloaded 3, 9, 47–8
- versus mobile handset internet 48, 62

fixed-line telephone services

- availability 14–17
- calls from 50–1
- complaints 5, 122–3
- consumer satisfaction 59–61
- Network Reliability Framework (NRF) 110–13
- numbers 7
- in operation 4, 14
- replaced by nbn 26
- shift away from 3, 7, 14–15, 52
- Telstra retail only 14
- use of 16
- users 7

fixed-line telephone services network, reliability 110–13

4G mobile services 3–4, 19

4G networks 3–4, 19

- services in operation 8
- Voice over LTE (VoLTE) 19

Foxtel 68, 69, 71, 73

Foxtel Play 71

freephone and local rate numbers (FLRNs)

- allocation of numbers 30
- portability 11, 117

free-to-air television *see* television

Frost and Sullivan 28

G

gambling, interactive 87

games consoles, internet access 46

games online, playing 57, 64

geographic number allocations 11, 30–1

glossary 126–33

Google Chromecast 76

Google Play 73

Google+ Hangout 54–5

government websites, accessing 56–7, 64

Grant Broadcasters Pty Ltd 33, 35

H

Handling of Life Threatening and Unwelcome Communications industry code 98

Harbour Technology (HotNet) Pty Ltd 121

home broadband connections 10, 43–4, 62–3

home internet connections 3, 10, 43–4, 62–3

HomeLinX Pty Ltd 121

homespots (Wi-Fi) 22

House of Representatives Standing Committee on Infrastructure and Communications 94

Hulu Plus 76

IBM 28
icode 120
identity checking 97
iiNet
 appointments 108, 109
 compensation payments 109
 Customer Service Guarantee Standard 105, 107–10
 exceptions 110
 fault repairs 108, 109
 internet services in operation 24
 in-place connections 107, 109
 mergers and acquisitions 28, 29
 new service connections 107, 109
 as qualifying carriage service providers (QCSPs) 105
 TCP code 121
 waivers 105
Imparja Television Pty Ltd 32, 33
Independent News & Media PLC 34
Indigenous community television broadcasting services 36
industry codes *see* telecommunications codes
Industry Number Management Services Ltd (INMS) 117
infrastructure regulation 124, 125
in-place connections 105–7, 109
instant messaging 4, 16, 50–1
Integrated Public Number Database (IPND) 97
 compliance 97–8
 industry code 98
 number of connected records 97
 role of 97
interactive gambling 87
Interactive Gambling Act 2001 87
interception 96
 capability plan compliance 97
 cost of providing assistance 96
interference, complaints 99–100
International Association of Internet Hotlines (INHOPE) 87
international cooperation, child sexual abuse material 87
international trends 62–4
 communication services 62
 contactless tap-and-go payments 58
 fixed versus mobile internet penetration 64
 internet access 62–3
 internet access devices 63
 internet use 63–4
 online video content 76–7
 online video services 76–7
internet
 content complaints 12, 85–6
 domain names registered 10, 25
 online content 6, 85–6
 security 5–6, 120
internet access
 home 3, 10, 43–4, 62–3
 home broadband 10, 43–4, 62–3
 international trends 62–3

 via computers 4, 45–6, 49–50
 via games consoles 46
 via mobile phones 3, 4, 10, 21, 43–4, 45–7, 49–50, 62–3
 via mp3 players 46
 via smartphones 63
 via tablets 43, 45–7, 49–50
 via television 46
 Wi-Fi hotspots 22
internet access devices
 data allowances 48–9
 diversification 45–7
 frequency of use 49–50
 international trends 63
 number used 44–5
 online activities 58
Internet and Mobile Content Code 85
internet commerce 5, 10, 56–7, 58–9
Internet Industry Spam Code of Practice 121
Internet of Things (IoT) 27
internet security 5–6, 120
internet service providers (ISPs)
 icode 120
 numbers 8, 23–4
 prohibited online content 85–6
internet services
 availability 20–8
 complaints 122–3
 consumer satisfaction 59–61
 dial-up internet 20
 in operation 23–4
 subscribers 7
internet subscribers
 by internet services in operation 23–4
 mobile handset internet 20, 21
 mobile wireless internet 20, 21
 numbers 3, 20
 by technology type 20
internet use
 activities performed online 56–7, 58–9, 63–4
 data downloaded 3, 4, 9, 47–8
 frequency 49–50
 international trends 63–4
 number of activities 56, 63
 numbers 44, 63
 numbers offline 4, 44
internet video 70
IPTV 4, 28, 71
iTalk (Australia) Pty Ltd 121
iTunes 73

K

key highlights 3
key indicators 7–12
Kik 54–5

L

laptop computers
 communications apps 56
 internet access 4, 46

- internet activities 58
- law enforcement 87, 94–6
- LED downlights, non-compliant 99
- legislative requirements, compliance 2
- letter of transmittal iii
- levies 101–2
- licences
 - broadcasting 11, 31–5
 - cablers 117
 - carriers 8, 29–30
 - commercial radio broadcasting 6, 11, 31–2, 33–5
 - commercial television broadcasting 6, 11, 31–3
 - community radio broadcasting 36
 - community television broadcasting licences 31–2, 36
 - cross-media ownership 35–6
 - notification of changes of control 82
 - subscription television 11, 36
 - temporary community radio broadcasting 31–2, 36
- life-threatening calls 98
- Line (app) 54–5
- line rental costs, consumer satisfaction 60–1
- local number portability 11, 116, 117
- Local Number Portability Code 116

M

- M and E Alchi Family Trust 121
- M2 Group
 - Customer Service Guarantee Standard 110
 - exceptions 110
 - internet services in operation 24
 - mergers and acquisitions 28
- M2M services 27
- machine-to-machine (M2M) communications 3, 27
- Macquarie Radio Network Ltd 33, 34, 35
- malware 120
- Max Telecom Pty Ltd 121
- media ownership 35–6
- mergers and acquisitions 28–9
- messages
 - instant 4, 16, 50–1
 - short text (SMS) 50–1
 - using communications apps 53–6
- Microsoft 28
- Minister for Communications 102
- Mobile Black Spot Programme 19
- mobile handset internet
 - access 3, 4, 10, 43–4, 45–7, 49–50, 62–3
 - average download per subscriber 9
 - data allowances 48–9
 - data downloaded 9, 47–8
 - versus fixed-line broadband 48, 62
 - international trends 4, 64
 - online activities 58
 - subscribers 3, 21
 - use 21–2
- mobile internet services, numbers 7
- mobile network codes 31
- Mobile Number Portability Code 117
- mobile numbers
 - allocation 11, 31
 - portability 11, 117
- Mobile Phone Base Station Deployment Code 125

- mobile phone base stations 19, 125
- mobile phone services
 - complaints 5, 122–3
 - consumer satisfaction 59–61
 - identity checking for prepaid 97
 - interference 99
- mobile phones
 - calls from 50–1
 - communications apps 55–6
 - consumer satisfaction 60–1
 - coverage 19
 - emergency calls from 5, 91, 92–3
 - 4G subscribers 19
 - handsets 7
 - location for emergency service organisations 91
 - no fixed-line telephone 3, 7, 14–15, 52
 - OTT VoIP services 4, 16–17
 - smartphones 3, 7, 21–2, 63
 - SMS messages from 50–1
 - use of 3, 21–2
- mobile premium services, complaints 122–3
- Mobile Premium Services (MPS) Code 121
- mobile services
 - availability 17–20
 - 4G 19
 - market share 17–18
 - mobile location 91
 - number in operation 3, 17–18
 - numbers 7
 - providers 18–19
- mobile wireless broadband 7, 20, 21
- mobile wireless internet 20, 21
- mobile-internet services 21
- mp3 players, internet access 46
- Murdoch, Lachlan 36

N

- national broadband network (nbn) 4, 25–6
 - premises activated 4, 9, 25–6
 - premises serviceable 4, 9, 25–6
 - switch-off 26–7
- National Classification Board 85
- National Classification Scheme 85
- national interest issues 5, 11–12, 89–100
- National Relay Service (NRS) 92–3
 - app services 92
 - levies and payments 101–2
 - 106 TTY (teletypewriter) text service 92–3
- national security 94–6
- National Site Archive 125
- NBN Co Limited 4, 25
- NBN Ltd 83
- Netbay Internet Pty Ltd 121
- Netfast Communications Pty Ltd 122
- Netflix 3, 71, 72–3, 76
- Network Reliability Framework (NRF) 110–13
- new service connections 106–7, 109
- News Corporation 36
- news sites, accessed 10
- newspapers
 - cross-media ownership 35–6
 - notification of changes of control 82
- Newspoll Research 135

Nielsen 76, 77
Nine Entertainment Co Holdings Ltd 33, 71
Nine Network 32–3, 71, 78, 79–80
nominated carrier declarations (NCDs) 29–30
non-protection zone permits (NPZ permit) 98–9
notification of changes of control 82
Nova Entertainment Pty Ltd 33, 35, 36
number allocations 11, 30–1
number portability 11, 116–17
 freephone and local-rate number (FLRN) 117
 local numbers 11, 116, 117
 mobile numbers 11, 117

O

O'Brien, Denis 34
Office of the Children's eSafety Commissioner 85
offline Australians 4, 44
106 TTY (teletypewriter) text service 92–3
112 emergency calls 5, 11, 90–1
123 Group Pty Ltd 122
online activities 56–7, 58–9, 63–4
 devices used 58
online audio 56, 57–8, 67
online buying 5, 58–9
online content
 complaints 12, 85–6
 prohibited 6, 85
Online Content Scheme 85
online news services 10, 77
online radio content 67
online selling 5, 58–9
online shopping 5, 56–7, 58–9
online usage *see* internet use
online video content 67
 access 56, 57–8
 accessed professionally-produced 10
 benefits 73–4
 international trends 76–7
 technical experience 74–5
 viewing 3, 4, 5, 69–71, 72–3, 76
online video services 67
 benefits 73–4
 international trends 76–7
 technical experience 74–5
 viewing 72–3, 76
online video viewing devices 71, 76
Optus 71
 appointments 108, 109
 cloud services 28
 compensation payments 109
 Customer Service Guarantee Standard 105, 107–10
 dial-up internet 20
 exceptions 110
 fault repairs 108, 109
 4G networks 4, 8, 19
 internet services in operation 24
 M2M services 27
 mobile phone base stations 125
 mobile services 4, 18–19
 new service connections 107, 109
 as qualifying carriage service providers (QCSPs) 105

2G networks 19
Voice over LTE (VoLTE) 19
Wi-Fi calling 20
over-the-top (OTT) VoIP services 4, 15
 devices used 16–17
 use of 15–16, 50–1
Oz Talk Communications Pty Ltd 121

P

Pacnet 28, 29
pay TV *see* subscription television
payphones 5, 8, 102–4
 emergency calls from 90
 fault repairs 104
 numbers 103
 for people with disability 104
 removals 103
 sites 103
 teletypewriters 104
 use of 51
 as Wi-Fi hotspots 22
people with disability, payphones for 104
performance, Network Reliability Framework (NRF) 110–13
phishing 120
phishing reports 120
Pivot Pty Ltd 121
Planet ISP Pty Ltd 122
playing games 57, 64
podcasts 67
police 96
prepaid mobile carriage services 97
Presto Movies 71
Presto TV 71, 73
Prime Media Group Ltd 32, 33
Prime Television 83
Primus 105, 109, 114–16
priority assistance 114–16
Priority Assistance for Life Threatening Medical Conditions 114
prohibited online content 6, 85
protection zone installation permits (PZ permit) 98–9

Q

Quickflix 71, 73

R

radio
 advertising 38–9
 digital 3, 84
 listening to 3, 5, 67
 local information on regional 83
 online usage 67
 ownership and control of commercial 33–5
Radio Gippsland Pty Ltd 34
radio licences
 commercial broadcasting 6, 11, 31–2, 33–5, 83

- community broadcasting 31–2, 36
- notification of changes of control 82
- temporary community broadcasting 31–2, 36
- Radiocommunications Act 1992* 99
- radiocommunications compliance program 99
- radiocommunications interference 99–100
- radiocommunications transmitters 99
- Redwave Media Ltd 35
- Reeds Internet & Telecom Pty Ltd 121
- regional radio, local information on 83
- regional television, local information on 83
- registered cablers 117
- reliability, fixed-line telephone services network 110–13
- remote areas
 - appointments 108
 - Customer Service Guarantee Standard 105–6, 107
 - fault repairs 104, 106, 108
 - in-place connections 106
 - Mobile Black Spot Programme 19
 - new service connections 106, 107
 - payphones 104
 - priority assistance 114–16
- research methodology 135–7
 - data analysis 137
- Resonate Broadcasting Pty Ltd 34
- Roku 71, 76
- Roy Morgan Research 71, 135, 136
- rural areas
 - appointments 108
 - Customer Service Guarantee Standard 105–6, 107
 - fault repairs 104, 106, 108
 - in-place connections 106
 - new service connections 106, 107
 - payphones 104
 - priority assistance 114–16

S

- satellite internet 20
- selling online 5, 58–9
- service reliability, consumer satisfaction 60–1
- Seven Group Holdings Ltd 33, 35
- Seven Network 32–3, 71, 78, 79–80
- Seven Qld 83
- Seven West Media 71
- shopping online 5, 56–7, 58–9
- Skype 54–5
- smart TVs 68, 76
 - communications apps 56
 - internet access 46
- smartnumbers 30
- smartphones 3, 7, 21–2, 63
- SMS messages 50–1
- Snapchat 54–5
- social networking 4, 50–1, 52–3, 56–7, 64
- SoleNet Pty Ltd 121
- Sony 76
- Southern Cross Media Group Ltd 32, 33, 35, 83
- Southern Phone Company (SPC) 97–8
- spam 12, 118–19
- Spinktel 121

- Stan 71, 73
- State Emergency Service number 90
- streaming music services 67
- streaming video content *see* online video content
- submarine cable protection 98–9
- subscription television 36
 - captioning 80–2
 - drama expenditure scheme 79
- subscription television licences, numbers 11, 31–2
- subscription video on demand (SVOD) 3, 71–2
- Sure Telecom Pty Ltd 121
- surveys, ACMA-commissioned 135–6

T

- tablets
 - communications apps 55–6
 - data allowances 48–9
 - international trends 63
 - internet access 43, 45–7, 49–50
 - online activities 58
 - OTT VoIP services 16–17
 - ownership 63
- Tango 55
- T-Box 71
- technical support, consumer satisfaction 60–1
- telecommunication services 7–8
 - numbers 7
- Telecommunications (Consumer Protection and Service Standards) Act 1999* 102, 122
- Telecommunications (Customer Service Guarantee) Standard 2011 5, 14
 - see also* Customer Service Guarantee Standard
- Telecommunications (Customer Service Guarantee–Retail Performance Benchmarks) Instrument (No. 1) 2011 105
- Telecommunications (Emergency Call Persons) Determination 1999 92
- Telecommunications (Emergency Call Service) Determination 2009 89, 91, 92
- Telecommunications (Interception and Access) Act 1979* 94, 95, 96, 97
- Telecommunications (Low-impact Facilities) Determination 1997 124
- Telecommunications (Service Provider—Identity Checks for Prepaid Mobile Carriage Services) Determination 2013 97
- Telecommunications Act 1997* 2, 89, 93, 94, 95, 96, 98, 118, 121, 124, 125
- Telecommunications Cabling Provider Rules 2000 118
- Telecommunications Code of Practice 1997 124
- telecommunications codes
 - development and review 121
 - see also specific codes such as Local Number Portability Code*
- Telecommunications Consumer Protection (TCP) Code
 - advertising 121
 - compliance 98, 121
 - industry compliance 121
 - review 121
- telecommunications industry levy (TIL) 101–2
- Telecommunications Industry Ombudsman

- complaints to 5, 12, 122–3, 124
 - disclosures of customer information to 94–5
 - facility installation 124
 - handling of life-threatening and unwelcome calls 98
 - Telecommunications Industry Ombudsman scheme
 - compliance 122
 - members 8, 29, 122
 - telecommunications licences, cablers 117
 - telecommunications services *see* communications services
 - Telecommunications Universal Service Management Authority (TUSMA) 94–5, 102
 - Telecommunications Universal Service Obligation (Payphone Performance Benchmarks) Instrument (No. 1) 2011 104
 - telemarketing, complaints 12, 118–19
 - Telemarketing and Research Industry Standard 118
 - telephone number allocations 11, 30–1
 - Tele-Talk Pty Ltd 121
 - teletypewriters (TTY)
 - emergency call service numbers 92–3
 - payphones 104
 - television
 - advertising 38–9
 - anti-siphoning events 83
 - Australian content on 77–9
 - captioning 80–2
 - catch-up services 68–9
 - digital 83–4, 99
 - free-to-air viewing 5, 68
 - internet access 46
 - internet video 70
 - IPTV 4, 28, 71
 - local information on regional 83
 - online usage 68–9
 - online video services 72–6
 - subscription 31–2, 36
 - subscription video on demand (SVOD) 3, 71–2
 - viewing 68–73
 - see also* online video content; smart TVs
 - television licences
 - commercial broadcasting 6, 11, 32–3, 35–6
 - community broadcasting 31–2, 36
 - notification of changes of control 82
 - subscription 36
 - television sets 68
 - Telstra
 - appointments 108, 109
 - cable runs 112
 - cloud services 28
 - compensation payments 109
 - Customer Service Guarantee Standard 105, 107–10
 - dial-up internet 20
 - emergency call services 89
 - emergency calls 5, 90–1
 - exceptions 110
 - fault repairs 108, 109
 - faults 111–13
 - fixed-line telephone services 14
 - fixed-voice product revenue 14
 - 4G networks 3–4, 8, 19
 - Integrated Public Number Database (IPND) 97
 - internet services in operation 24
 - in-place connections 107, 109
 - M2M services 27
 - mergers and acquisitions 28, 29
 - Mobile Black Spot Programme 19
 - mobile phone base stations 125
 - mobile services 3–4, 18–19
 - Network Reliability Framework (NRF) 110–13
 - new service connections 107, 109
 - payphones 102–4
 - phishing reports 120
 - priority assistance 114–16
 - as qualifying carriage service providers (QCSPs) 105
 - subscription video on demand (SVOD) 71, 76
 - 2G networks 19
 - Voice over LTE (VoLTE) 19
 - Wi-Fi hotspots 22
 - Telstra Air 22
 - temporary community radio broadcasting licences 31–2, 36
 - Ten Network 32–3, 78, 79–80
 - Ten Network Holdings Ltd 33
 - text messages (SMS) 50–1
 - time frames 105–6, 109
 - TIO *see* Telecommunications Industry Ombudsman
 - TPG Telecom
 - dial-up internet 20
 - internet services in operation 24
 - mergers and acquisitions 28, 29
 - waivers 105
 - Triple Zero calls 5, 11, 90–1
 - complaints 91
 - via National Relay Service (NRS) 92–3
 - Tru Telecom Pty Ltd 122
 - Twitter 50
 - 2G networks, decommissioned 4, 19
-
- ## U
-
- unacceptable media diversity situation (UMDS) 34
 - United Kingdom 62–4
 - United States, internet access 62–3
 - universal service obligation (USO), levies and payments 101–2
 - unsolicited communications 118–19
 - unwelcome calls 98
 - urban areas
 - appointments 108
 - Customer Service Guarantee Standard 105–6, 107
 - fault repairs 104, 106, 108
 - in-place connections 106
 - new service connections 106, 107
 - payphones 104
 - priority assistance 114–16
-
- ## V
-
- Viber 54–5
 - video calls
 - using communications apps 53–6
 - using OTT VoIP services 16
 - using Voice over LTE (VoLTE) 19

video content 67–77
 see also online video content
video on demand *see* subscription video on demand (SVOD)
VMware 28
Vocaltone Networks Australia Pty Ltd 121
Vodafone Hutchison Australia (VHA)
 cloud services 28
 4G networks 4, 8, 19
 M2M services 27
 Mobile Black Spot Programme 19
 mobile phone base stations 125
 mobile services 4, 18–19
 Voice over LTE (VoLTE) 19
 Wi-Fi calling 20
voice calls, using communications apps 53–6
Voice over LTE (VoLTE) 19
Voice over Wi-Fi 19–20
VoIP services
 managed 15–16
 over-the-top (OTT) 4, 15–17, 50–1
 take-up 15

W

waivers, Customer Service Guarantee Standard 8, 105
We Chat 55
WhatsApp 54–5
Wi-Fi calling services 19–20
Wi-Fi hotspots 22
WIN Corporation Pty Ltd 32, 33, 36
WIN TV 83
wireless broadband
 data downloaded 9, 47–8
 mobile 7, 20, 21
 subscribers 20
wireless internet, publicly accessible 22
working from home 56–7

Y

YouTube 72–3

**Canberra**

Red Building
Benjamin Offices
Chan Street
Belconnen ACT

PO Box 78
Belconnen ACT 2616

T +61 2 6219 5555
F +61 2 6219 5353

Melbourne

Level 32
Melbourne Central Tower
360 Elizabeth Street
Melbourne VIC

PO Box 13112
Law Courts
Melbourne VIC 8010

T +61 3 9963 6800
F +61 3 9963 6899
TTY 03 9963 6948

Sydney

Level 5
The Bay Centre
65 Pirrama Road
Pymont NSW

PO Box Q500
Queen Victoria Building
NSW 1230

T +61 2 9334 7700
1800 226 667
F +61 2 9334 7799

