Rialtas na hÉireann
Government of Ireland

Emergency Call Answering Service

Annual Review

2019

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1 Introduction

The Emergency Call Answering Service (ECAS) is responsible for answering all 112 and 999 calls and texts, providing a vital link between the caller and the Emergency Services. The ECAS seeks to establish the location of an incident and confirms the Emergency Service being requested (An Garda Síochána (AGS), Fire, Ambulance or Coast Guard and Air Traffic Control in emergencies involving aircraft). The call or text is then transferred to the appropriate Emergency Service which then takes responsibility for the call and responds to the emergency. The ECAS operators continue to monitor the call until it has been accepted by the Emergency Service.

2 Background

2.1 Basis and Purpose of the Review

Section 58B of the Communications Regulation Act 2002 (the 2002 Act) enables the Minister to enter a contract for the operation of the ECAS.

Following public procurement processes there have been two contracts awarded for the operation of the ECAS to date. The first contract was awarded to BT Communications Ireland Limited (BTCIL) in 2009, operations commenced on 14 July 2010. A second ECAS contract was awarded in February 2018, also to BTCIL. This contract is for a period of seven years expiring in November 2025. Work commenced in 2018 to give effect to the Implementation Plan in the new contract and the seamless transition to the new ECAS platform without interruptions to the service was completed in the first quarter of 2019.

The contract provides for an annual review of the performance of the ECAS Operator including:

(i) the relevant Performance Levels, including related Performance Credits.
(ii) Performance capabilities, including those associated with advances in technology and methods used to provide the services.
(iii) Any other matters agreed for review.

This is the first review of the performance of the ECAS under the second contract.

2.2 ECAS Funding

Emergency calls are free of charge to the caller[1] In order to fund the ECAS, the 2002 Act provides for a Call Handling Fee (a per call charge) to be charged to providers of electronic communications networks or services for every emergency call on whose network the call originates. Under section 58D of the 2002 Act, the Commission for Communications Regulation (ComReg) must review and determine the maximum permitted Call Handling Fee (CHF) on an annual basis to ensure the reasonable costs of operating the service, both capital and annual running expenses, are recovered by the ECAS Operator. As per the terms of the new contract, the CHF for the 12 months to 11 February 2020 was set at €3.93.

3 Call Volumes

3.1 Call Volumes

In 2019 ECAS received a total of 2,320,970 calls, which represented an increase of 312,964 calls or 15.6% on the previous year. This continues the upward trend in emergency calls since 2017.

Table 1: Annual Call Volume 2010 - 2019

Year	Volume of Calls
2010	3,230,263
2011	2,833,804
2012	2,802,406
2013	2,684,324
2014	2,149,445
2015	1,860,335
2016	1,761,166
2017	1,807,568
2018	2,008,006
2019	2,320,970

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[1] Regulation 5 of the European Communities (Electronic Networks and Services) (Universal Service and Users' Rights) Regulations 2011

Figure 1 illustrates the monthly call volumes from 2009 to 2019.

From 2015 to 2017 the average call volume remained at approximately 150,000 calls per month. In 2019 the monthly average was 193,000.

Figure 1: Monthly Call Volumes 2009- 2019
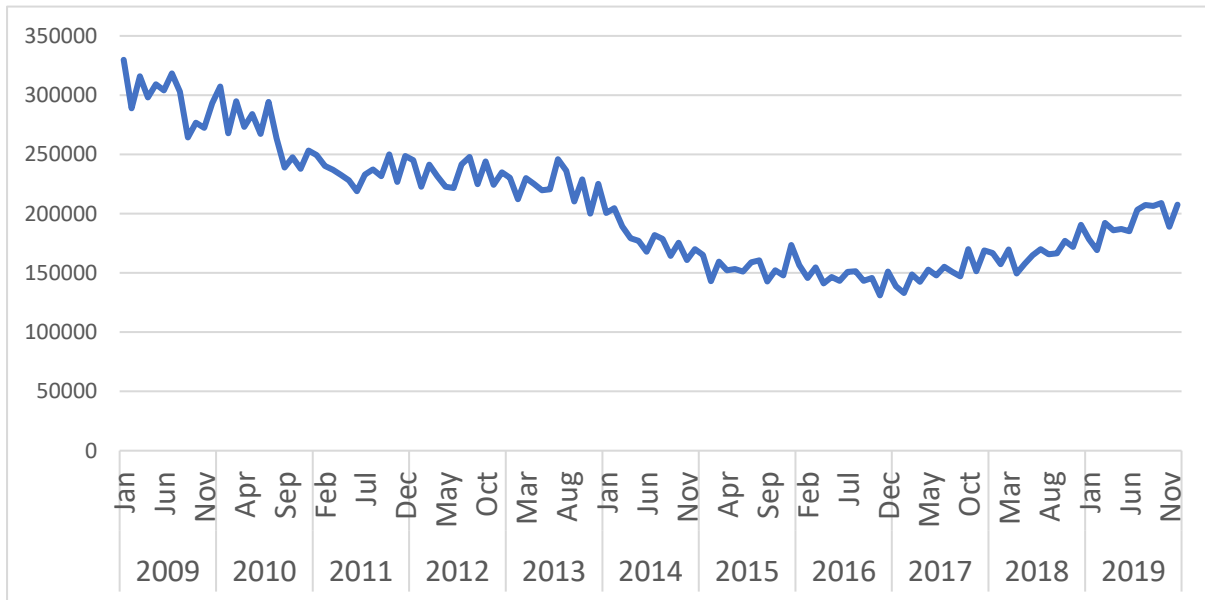
Factors such as atypical weather, flooding, holiday periods and even the number of weekends in a month has the potential to affect call volumes in any given month.

Figure 2 illustrates the variance in daily call volumes in 2019 and highlights three notable increases in daily call volumes which were recorded in March, July and October. The busiest day of the year with 8,302 calls, was 26th July, which was also the hottest day of the year. Other notable increases in daily call volumes include a period of high peaks in early October and December which were as a result of Storm Lorenzo and the Christmas holiday season.

Figure 2: Daily Call Volumes 2019
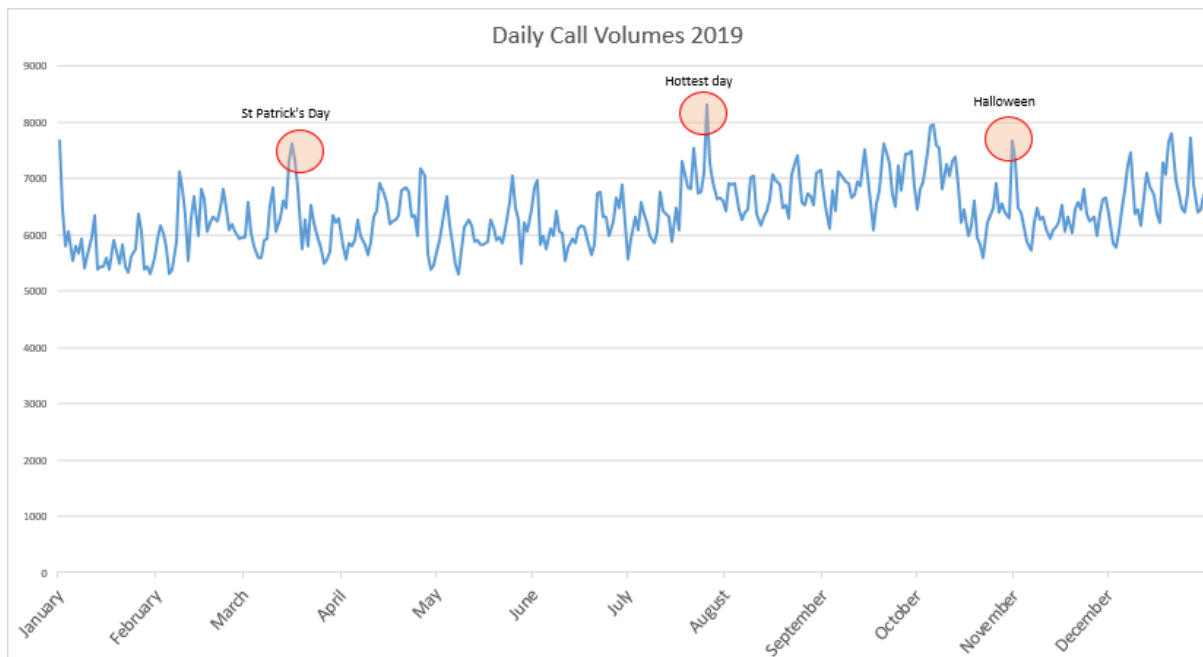
3.2 Categories of Call

All calls to the ECAS are classified by category and a glossary of call classifications is set out in the Appendix.

In addition to normal calls, that is calls that request an Emergency Service and are connected accordingly, a proportion of calls from other classifications (e.g. silent calls) are also forwarded to the Emergency Services on procedure. In recent years approximately 50% of all calls were filtered out annually, with the remainder being connected to the Emergency Services. In 2019 the increase in overall call volume resulted in the percentage of calls filtered out increasing to 60.2% with 39.8% of calls connected to the Emergency Services (Fig.3).

In 2019, with the exception of children playing all categories of calls experienced higher call volumes than in 2018. There were 852,888 calls (36.71%) categorised as normal calls and this represents a 1.4% increase on the number of normal calls received in 2018. All other calls (non-normal) amounted to 1,470,340 this represented a 26% increase in this category from 2018.

The trend of silent calls category (calls to the ECAS which remain open without the caller speaking) continued to rise in 2019, increasing by 19,885 to 763,730, up 2.7% on the previous year.

The noisy calls classification experienced the largest percentage increase in 2019 (84%) and accounted for 55.7% of the overall increase in call volumes in 2019. The Other call category increased by 61% year-on-year and accounted for 36% of 2019's increase. This category consists of calls such as misdials, repeat silent calls, cleared without speech and caller cancellations. The increases in normal and silent calls accounted for 3.63% and 6.31% of the overall annual increase respectively.
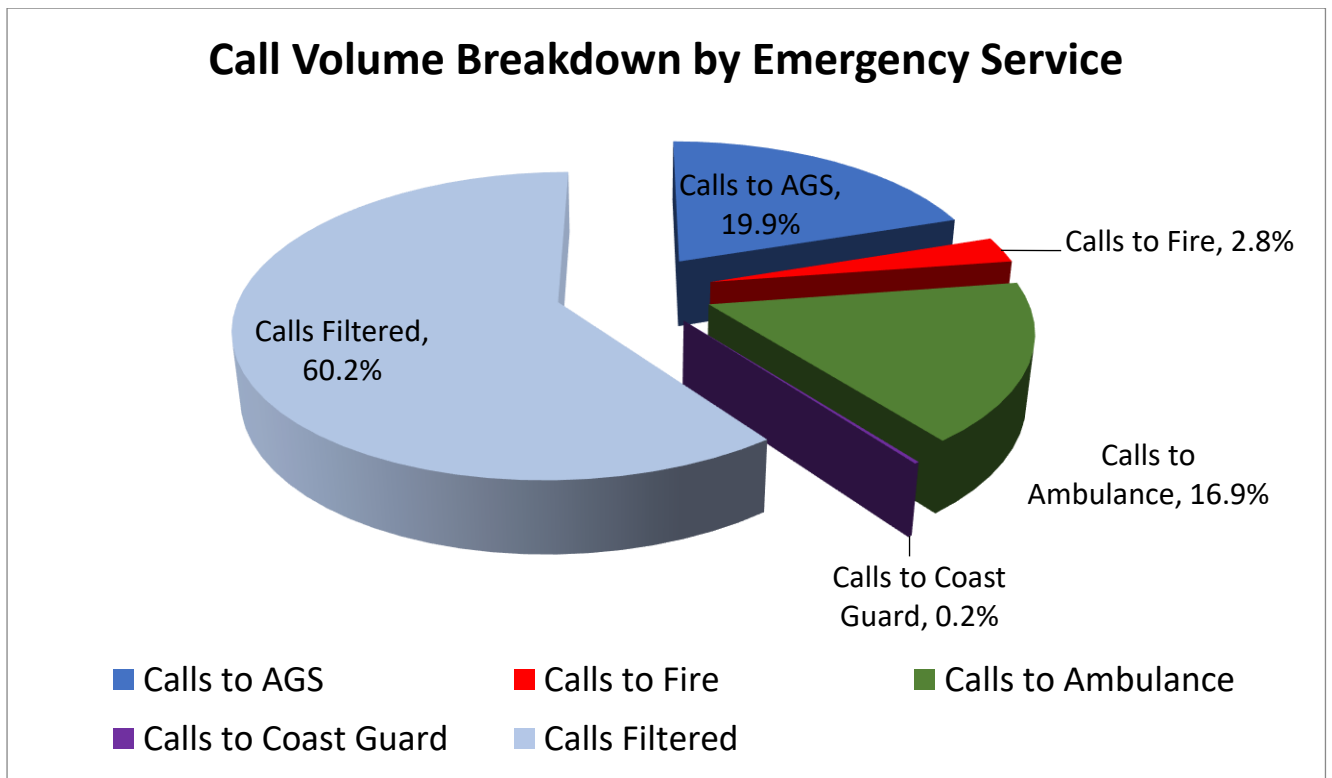
Table 2: Percentage Call Volume per Classification

Call Classification	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Normal Call	31.2%	30.4%	28.9%	30.7%	36.8%	42.1%	43.9%	43.6%	42.0%	36.71%
Silent Calls	48.5%	52.0%	55.8%	49.5%	43.2%	37.8%	36.1%	38.1%	37.0%	32.87%
Noisy Calls	8.0%	5.4%	4.7%	7.4%	7.6%	8.3%	8.5%	7.6%	10.4%	16.57%
Children playing	2.7%	3.0%	2.4%	2.1%	2.4%	1.9%	1.8%	1.7%	1.4%	1.00%
Other	9.6%	9.2%	8.2%	10.2%	10.1%	9.9%	9.6%	9.0%	9.2%	12.85%

Table 3: Call Volumes per Classification

Call Classification	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Normal Call	354,413	861,154	781,631	765,313	786,088	782,488	773,365	786,531	841,417	852,888
Silent Calls	550,909	1,474,267	1,512,309	1,238266	924,883	702,745	636,368	688,282	743,845	763,730
Noisy Calls	91,041	152,256	127,463	185,763	163,094	153,400	150,001	137,048	209,336	385,016
Children playing	30,820	85,212	64,592	52,724	50,677	36,057	32,272	31,308	28,011	23,169
Other	108,557	261,147	225,537	258,668	217,926	184,401	168,485	161,787	185,289	298,425

Figure 3: Call Breakdown per Emergency Service

Call Volume Breakdown by Emergency Service

Calls to AGS, 19.9%
Calls to Fire, 2.8%
Calls Filtered, 60.2%
Calls to Ambulance, 16.9%
Calls to Coast Guard, 0.2%

■ Calls to AGS   ■ Calls to Fire   ■ Calls to Ambulance
■ Calls to Coast Guard   ■ Calls Filtered

4 Quality of Service

4.1 Overview

The ECAS performed to a consistently high standard in 2019, filtering approximately 1.4m calls and connecting 0.92m calls throughout the year exceeding the performance levels set out in the Concession Agreement. It has handled over 22 million calls since its launch in July 2010. In that time, it has filtered out over 11 million calls freeing up Emergency Services time and resources to deal with genuine emergency calls.

The service has been available 24 hours a day, 365 days a year since it was launched in July 2010, with 100% availability over 2019.

Calls are routed to the Emergency Services with details of the emergency and the location of the caller within an average of 16.1 seconds and in 2019 the ECAS achieved 99.77% call handling accuracy.

Table 4: ECAS Key Performance Indicators for 2019

ID	Parameter	Measurement Frequency	Threshold	Average
1	ECAS Availability	Monthly	99.999%	100.00%
2	Missed calls	Monthly	Zero missed calls during the Measurement Period	0.67 (Calls per month)
3	Standards Certification	Monthly	Valid certificate	Y
4	Potential blocked calls	Monthly	All available inbound capacity must not be fully utilised for more than two (2) seconds at any point throughout the Measurement Period.	0
5	Average Call Abandon Rate (excluding calls <1s)	Hourly and daily	< 5% of calls reported as a daily average	0.23%
6	Average Speed of Answer	Hourly and daily	< 1.3 sec for 98 % of calls reported as a daily average.	99.08%
7	Accessibility Index (Hit Rate)	15 minute intervals and daily	95% of calls daily	96.58%
8	Connected Call - Average Call Routing Time (excluding abandoned calls and unrouted calls)	Hourly and daily	< 18 seconds for 90% of routed calls reported as daily average.	16.1 s
9	Average Call Handling Time - Connected calls excluding ES ring time	Hourly and daily	< 55 seconds reported as a daily average.	53.8 s
10	Average Call Handling Time - Connected calls	Hourly and daily	< 60 seconds reported as a daily average.	62.9 s
11	Average Call Handling Time - Filtered calls	Hourly and daily	< 20 seconds reported as a daily average.	18.9 s
12	Transfer accuracy	Monthly	<0.25% of hand offs routed to wrong Emergency Service	0.040%
13	Call Handling Accuracy	Random sample of 50 calls per ECAS Operator Centre per month	99% Monthly measured independently	99.766%
14	Customer or Emergency Service complaints against ECAS	Monthly	2 per month or 1 for every 200,000 calls	0

4.2 Percentage of Calls Answered within 1.3 seconds

ECAS must answer 98% of calls within 1.3 seconds as per KPI 6 in Table 4 above. In 2019, 99.08% of calls were answered within the 1.3 second target.

Figure 4: Percentage of Calls Answered within 1.3 seconds throughout 2019
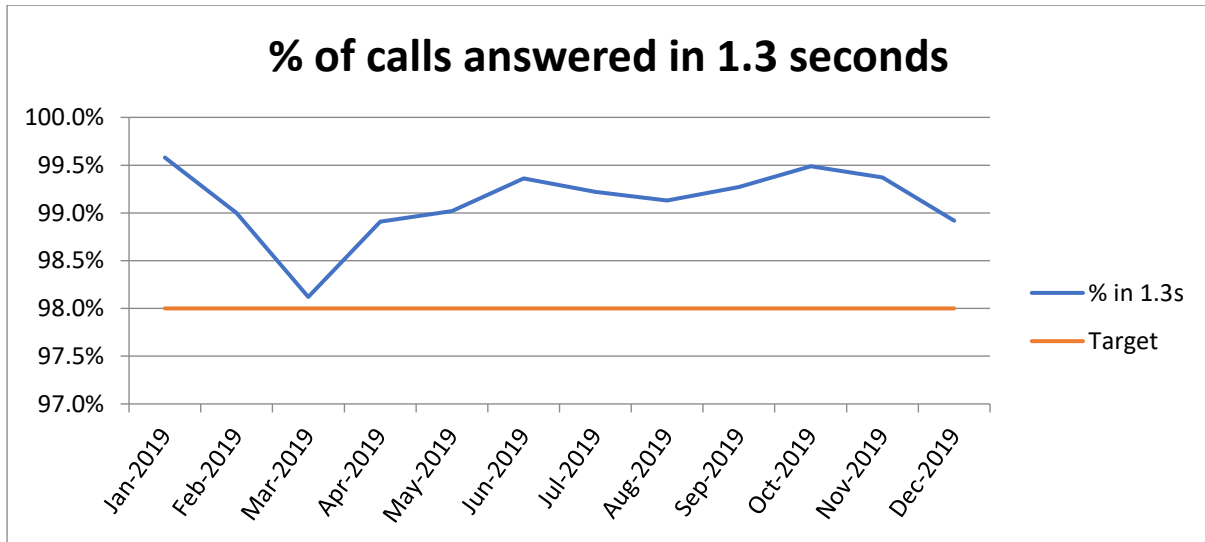
4.3 Call Handling Time

Call handling time performance is monitored by a number of KPI's, the most important of which are set out in table 4. Connected calls take significantly longer to handle on average than other categories of call due to the time taken to obtain details from the callers and ensuring the correct handover procedures are followed to accurately transfer information relating to an emergency incident to the Emergency Services operator.

4.4 Call Handling Accuracy

ECAS must maintain a call handling accuracy of 99% per month, and when averaged over the year the service achieved a call handling accuracy rating of 99.77%.

4.5 Missed Calls KPI

During a brief period on the 22nd August 2019 a number ECAS call takers experienced connection failures during the presentation of a call. All affected callers subsequently called back and were answered successfully and processed normally by the call takers. The technical matter behind the fault was remedied within 1 hour. This fault resulted in a Performance Credit being incurred by ECAS under the contract.

Service Enhancements

4.6 Advanced Mobile Location (AML)

AML is a mobile phone technology to supplement current methods of locating mobile callers who contact the Emergency Services on 112 or 999. It works by automatically finding a phone's co-ordinates and sending a text message to the call centre when a 112 or 999 number is dialled. The co-ordinates are immediately passed to the Emergency Services in responding and dispatching emergency personnel to callers in need across Ireland.

It is a cost effective technique which can provide a far greater degree of accuracy for the caller's location than was previously available. In most cases, this can be expected to be within 50 meters of the user's actual location where a GPS or Wi-Fi fix is established and in instances where a good GPS has been secured, within 10 meters.

The availability of AML on mobile emergency calls has steadily increased since its formal launch in Ireland in October 2017. In 2019 AML was enabled for emergency SMS on Android devices and in December 2019 AML was available on 56% of all mobile calls and 21% of SMS.

4.7 eCall

eCall is a 112 emergency call that is triggered either manually by vehicle occupants or automatically as soon as an in-vehicle sensor detects an impact from a serious collision. When activated, eCall establishes a voice connection with ECAS.

Using the voice line, a Minimum Set of Data (MSD) is sent to the ECAS operator. The most important data is the accurate geo-location of the collision scene, knowing the exact location of the collision is vital in allowing the Emergency Services to arrive much faster at the scene.

All new models of cars sold in Europe from April 2018 have the capacity to make an eCall and the ECAS system was successfully upgraded to enable it to receive and connect eCalls to the Emergency Services. eCall has been operational throughout 2019 with ECAS receiving 841 eCalls, 792 presented as manual eCalls (user initiated) with remaining 49 presenting as auto (device initiated) eCalls.

4.8 Promotion of 112

ECAS was represented at the BT Young Scientist Exhibition in the RDS in January 2019. At this event in conjunction with the Emergency Services it promoted and publicised 112 to the wide and very diverse audience.

ECAS also gave presentations throughout the year to interested parties to explain the service and promote the use of 112.

5 Services for Persons with Disabilities

5.1 112 SMS

The Department is committed to enabling access by persons with disabilities to the Emergency Services. The Department along with the ECAS regularly monitors advances in technology as part of a continuous improvement process to develop the 112/999 services, particularly for persons with disabilities.

Ireland was one of the first countries in Europe to provide an SMS service to access Emergency Services and since 2012 persons in Ireland may use SMS text messaging to contact the ECAS. Although not exclusively for persons with disabilities, the service enables persons, in particular those who may be deaf, hard of hearing or speech-impaired to send SMS text messages to the ECAS. Another benefit of SMS is that it doesn't need the same quality of reception and may often function in areas of poor quality mobile coverage. The 112 SMS was enhanced in 2019 to support AML technology allowing ECAS to pass accurate location information to the Emergency Service when available on SMS to 112. These 112SMS texts are free of charge to the texter.

Users of this service should pre-register for the service on the 112 Website.

## 5.2 Limitations of 112 SMS Service

There are, however, some inherent limitations with the use of SMS technology as it is not a real-time service with a guarantee of delivery. Therefore, if no reply is received to an SMS within 2 minutes, the ECAS recommends that a texter sends a second 112SMS. However, if a person is in a position to make a voice call to 112 or 999 the ECAS recommends that the person does so.

Further information is available on the website at 112_SMS_Service.

5.3 SMS Volume

ECAS handled 324 SMS messages in 2019 and connected 138 of these to an Emergency Service.

Figure 5: Monthly SMS Volumes for 2019
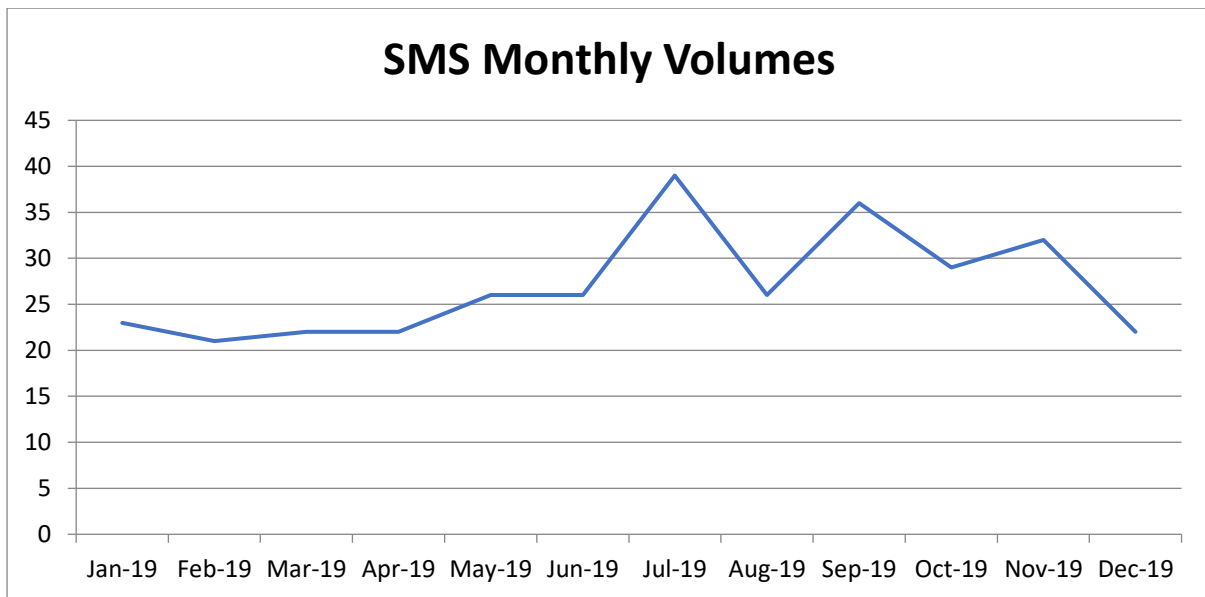
6 ECAS Certification

The ECAS has secured and maintained the following certifications:

➢ **ISO9001** - sets out the steps necessary to adopt a quality management system. It is designed to help organisations ensure they meet the needs and expectations of both customers and other interested parties, based on internationally recognised quality management principles set out by the International Standards Organisation (ISO).

➢ **ISO27001:2013** - sets out the requirements of information security management system. It is part of the ISO 27000 family of standards relating to information and cyber security and offers a comprehensive set of controls, based on best practice in information security.

➢ **ISO22301:2014** – is a global standard, which provides a documented management framework to protect against, reduce the likelihood of occurrence of disruptive events and to prepare for, respond to, and recover from such disruptive incidents when they arise.

7 Governance

The ECAS Service is managed through a number of forums: the ECAS Emergency Services Group, the ECAS Liaison Committee, the ECAS Industry Forum and the ECAS Operator Forum. Each group meets at regular intervals throughout the year and all meetings are minuted.

The **ECAS Emergency Services Forum** acts as the Project Board for the ECAS and is chaired by the Department. It also consists of representatives of An Garda Síochána, the National Ambulance Service, the Fire Service, the Irish Coast Guard, the Department of Housing, Local Government and Heritage and the ECAS Operator. Its role is to act as an advisory board and advise the Minister for the Environment, Climate and Communications on the management of the Emergency Service Answering Service. It meets quarterly.

The **ECAS Liaison Committee** is chaired by the Department and consists of representatives of DCACN and the ECAS Operator. The Liaison Committee meets quarterly and considers operational performance, operational matters arising, and service enhancements.

The **ECAS Industry Forum** is chaired by ComReg and consists of representatives of ComReg, the Department, the ECAS Operator and the Telecoms Industry. It is chaired by ComReg and facilitates discussion on telecommunications issues relating to ECAS.

The **ECAS Operator Forum** is a forum for the ECAS call takers to present matters relating to operational aspects of the ECAS to the Department including proposals for changes in procedures to improve handover to Emergency Services and enhance the quality of service to callers.

The Department also carries out Monthly Audits of Emergency Calls at the ECAS centre, the reports from these audits form the basis for ECAS operational reviews.

Appendix

Call Classification	Definition	Speech Present?
Normal	A normal call where a person makes a service request and the call is connected to an Emergency Service	Y
Cleared Without Speech	A call where the caller clears the call without making a service request	N
Silent Calls	A call which remains open without the caller speaking. These calls are triaged according to the Silent Call procedures	N
Noisy Calls	A false call which is generated on a fixed line network, which tend to be weather related;	N
Children Playing	Calls from children that are triaged in accordance with the Young/Old Child/ Adult Playing procedures	Y
Abusive	A call from members of the public that are abusive to the ECAS Operator where no request for an Emergency Service is made	Y
Non ES Help	A call where the caller makes a request for a service outside of the four named Emergency Service	Y
Misdials	A call where the caller indicates that they have made an error in calling the ECAS	Y
Customer Cancels	A call where the customer speaks and cancels the call	Y
Abandoned	A call that terminates before it can be presented to the next available ECAS Operator	N