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Climate Action & Environment

# Emergency Call Answering Service Annual Review 2018

CONFIDENTIAL

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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 establishes the location of the incident and confirms the Emergency Service being requested (Garda (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 Ireland in 2009, operations commenced on 14 July 2010. This review relates to the performance of the ECAS under the first contract.

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

- (i) An assessment of the key performance indicators which are set down in the agreement;
- (ii) Performance capabilities, including those associated with advances in technology and methods used to provide the services;
- (iii) Analysis of the quality of service provided.

A second ECAS contract was awarded in February 2018 to BT Ireland. This contract is for a period of seven years expiring November 2025. Work commenced in 2018 to give effect to the Implementation Plan in the new contract and seamlessly transition to the new ECAS platform without interruptions to the service.

## 2.2 ECAS Funding

Emergency calls are free of charge to the caller<sup>1</sup> and 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 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. Following a public consultation, ComReg concluded its annual review in January 2018. It set the maximum permitted CHF at €3.07 for the year 12 February 2018 to 11 February 2019, or until the new contract would come into effect,.

## 3 Call Volumes

### 3.1 Call Volumes

In 2018 ECAS received a total of 2,008,006 calls, which represented an increase of 200,438 calls or 11.09% on the previous year. Previously the volume of calls had decreased each year from 2010 to 2016 but 2017 and 2018 have reversed this trend.

**Table 1: Annual Call Volume 2010 - 2018**

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

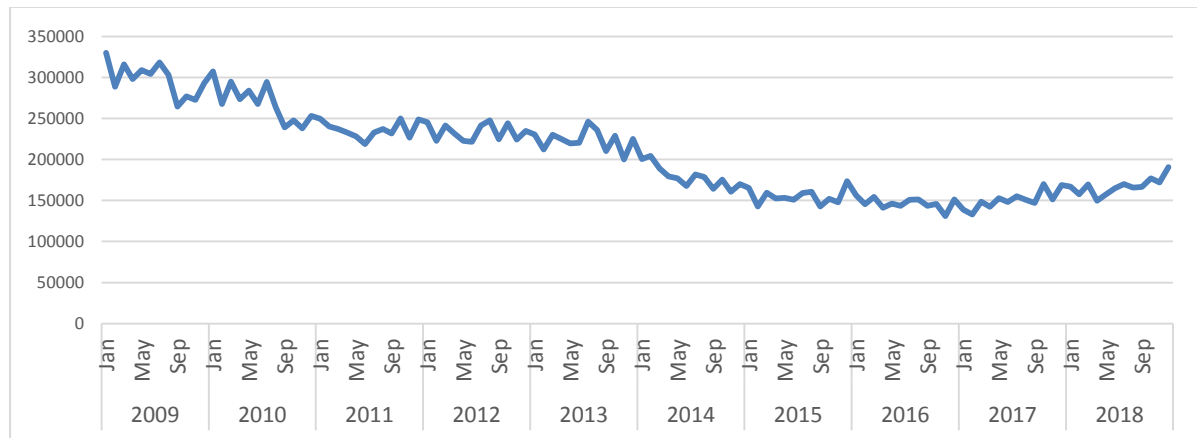
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<sup>1</sup> Regulation 5 of the European Communities (Electronic Networks and Services) (Universal Service and Users' Rights) Regulations 2011

Figure 1 illustrates the trend of call volumes from 2009 to 2018 on a monthly basis.

From 2015 to 2017 the average call volume remained at approximately 150,000 calls per month. In 2018 the monthly average rose to 167,000.

**Figure 1: Monthly Call Volumes 2009- 2018**



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 this regard, there were three significant weather-related incidents in 2018, Storm Emma, the 2018 Summer Heatwave and Storm Ali which significantly affected call volumes.

Figure 2 illustrates the impact these weather incidents had on the daily call volumes.

Of the three events, Storm Emma along with “the Beast from the East” resulted in the most significant increase in call volumes, with ECAS receiving 21,237 calls from Friday 2<sup>nd</sup> March to Sunday 4<sup>th</sup> March. During such adverse weather conditions the increased demand is directly due to an increase in the genuine normal calls, as well as an increase in “noisy” calls caused by faults on the traditional circuit-switched telephone network. An examination of the call volumes for the period of this weather event, illustrates clearly how adverse weather results in the call volume increasing significantly above the forecasted figures.

Wednesday 28th February – 5,437 (+14%) calls compared to 4,754 forecasted

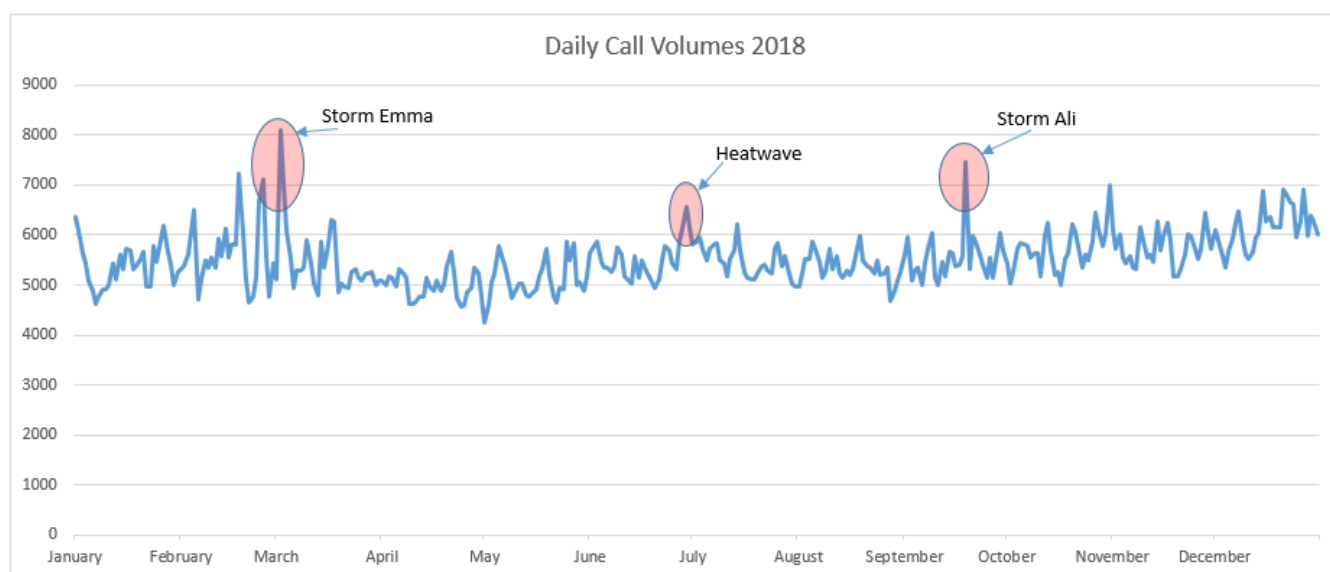
Thursday 1st March – 5,119 (+4%) calls compared to 4,920 forecasted

Friday 2nd March – 8,083 (+57%) calls compared to 5,148 forecasted

Saturday 3rd March – 7,032 (+27%) calls compared to 5,520 forecasted

Sunday 4<sup>th</sup> March – 6,101 (+18%) calls compared to 5,188 forecasted

**Figure 2: Call Volumes by Month 2018**



### 3.2 Categories of Call

All calls to the ECAS are classified and a glossary of call categories 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 2018 the increase in overall call volume resulted in the percentage of calls filtered out increasing to 53% with 47% of calls connected to the emergency services.

In 2018, with the exception of “Children Playing” all categories of calls experienced higher call volumes than in 2017. There were 841,417 calls (42%) categorised as normal calls and this represents a 7% increase on the number of normal calls received in 2017.

The other classifications of calls had generally experienced a decline over the past number of years. The “Silent Calls” category (calls to the ECAS which remain open without the caller speaking) decreased between 2010 and 2016 by over 915,000 calls (59%) but in 2017 the volume of silent calls increased by 52,000, an 8% increase on the previous year. In 2018 the number of silent calls was 743,845, an increase of 55,563 on 2017.

The “noisy calls” classification experienced the largest percentage increase in 2018 (53%), and accounted for 36% of the overall increase in call volumes in 2018. The increases in normal and silent calls each accounted for 27% of the increase.

**Table 2: Percentage Call Volume per Classification**

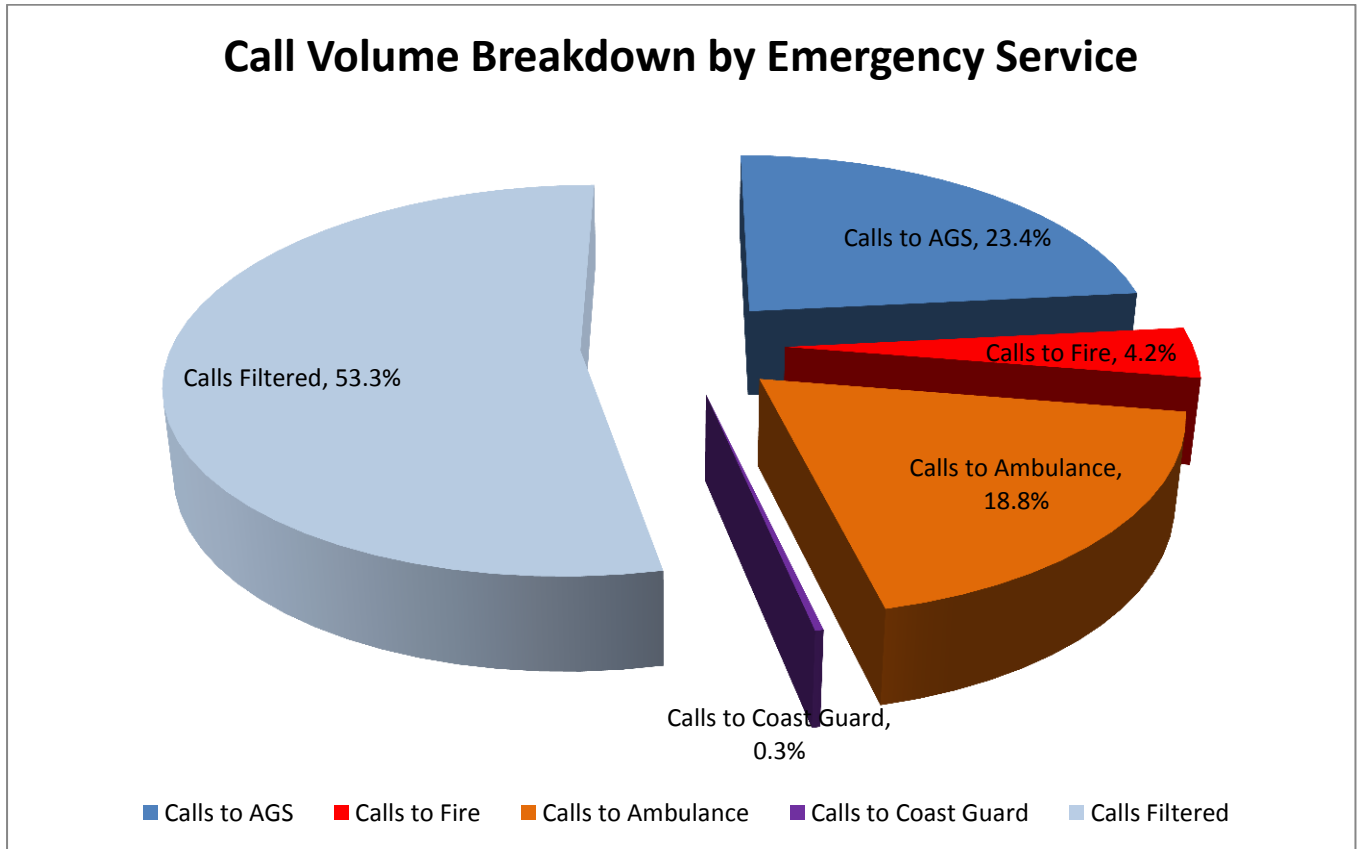
Call Classification	2010	2011	2012	2013	2014	2015	2016	2017	2018
Normal Call	31.2%	30.4%	28.9%	30.7%	36.8%	42.1%	43.9%	43.6%	42.0%
Silent Calls	48.5%	52.0%	55.8%	49.5%	43.2%	37.8%	36.1%	38.1%	37.0%
Noisy Calls	8.0%	5.4%	4.7%	7.4%	7.6%	8.3%	8.5%	7.6%	10.4%
Children playing	2.7%	3.0%	2.4%	2.1%	2.4%	1.9%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

**Table 3: Call Volumes per Classification**

Call Classification	2010	2011	2012	2013	2014	2015	2016	2017	2018
Normal Call	354,413	861,154	781,631	765,313	786,088	782,488	773,365	786,531	841,417
Silent Calls	550,909	1,474,267	1,512,309	1,238,266	924,883	702,745	636,368	688,282	743,845
Noisy Calls	91,041	152,256	127,463	185,763	163,094	153,400	150,001	137,048	209,336
Children playing	30,820	85,212	64,592	52,724	50,677	36,057	32,272	31,308	28,011
Other	108,557	261,147	225,537	258,668	217,926	184,401	168,485	161,787	185,289



Figure 3: Call Breakdown per Emergency Service



## 4 Quality of Service

### 4.1 Overview

The ECAS has performed to a consistently high standard in 2018 and, with the exception of Average Call Handling Time (see below) and Call Handling Accuracy (see below), it has exceeded the performance levels set out in the Concession Agreement. It has handled over 20 million calls since its launch in July 2010. In that time, it has filtered out over 10 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 2018. The average speed of answer for a caller to ECAS in 2018 was 0.77 seconds with more than 99% of calls answered within 5 seconds and this puts ECAS among the best performing countries in the EU<sup>2</sup>.

Calls are routed to the Emergency Services with details of the emergency and the location of the caller within an average of 7.26 seconds and in 2018 the ECAS achieved 99.57% call handling accuracy.

**Table 4: ECAS Key Performance Indicators for 2018**

ECAS KPI	Threshold	Measurement Period	Outcome
ECAS Availability	99.999%	Rolling 12 month	100.00%
Average Speed of Answer	1.3 seconds	Per Day	0.77 secs
PAC 5	97.5%	Per Day	98.75%
Accessibility Index (Hit rate)	85%	Per Day	99.05%
Complaints (total)	2	per month or 1 for every 200,000 calls	0
Standards certification	Certificate Inspection	Annual	Yes
Average Call Handling Time	36 seconds	Per Day	37.0 secs
Average Call Routing Time	Less than 15 seconds for 90% of routed calls.	Per Day	7.26 secs
Average Call Abandon Rate	< 12%	Per Day	5.14%
Call Handling Accuracy	99%	Monthly	99.57%

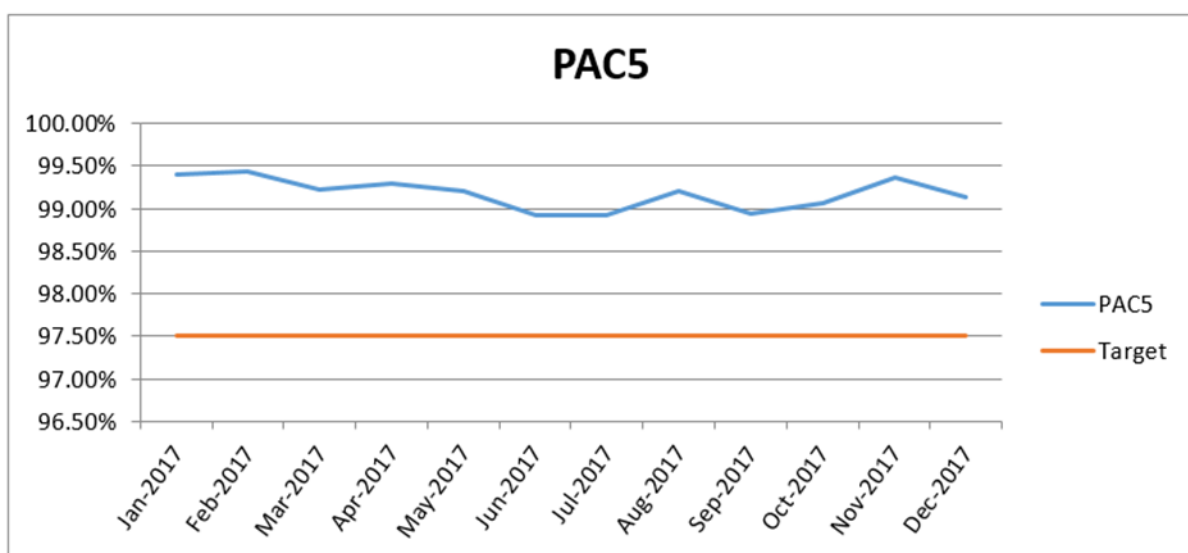
<sup>2</sup> <https://ec.europa.eu/digital-single-market/en/news/implementation-european-emergency-number-112-results-eleventh-data-gathering-round>

## 4.2 Percentage of Calls Answered within 5 seconds (PAC5)

ECAS must answer 97.5% of calls within 5 seconds. In average, ECAS exceeded this requirement in 2018 with 99.18% of calls answered within 5 seconds. There were however 2 months, June & July, within which the threshold was not achieved. This was mainly due to the effects of the unusually warm weather experienced this summer and the resulting increased call volume.

During this period of increased demand the ECAS took proactive steps, which included but was not limited to increasing staff numbers, to manage and contain the situation. There were also further operational adjustments implemented following a lessons learnt review.

**Figure 4: Percentage of Calls Answered within 5 seconds throughout 2018**

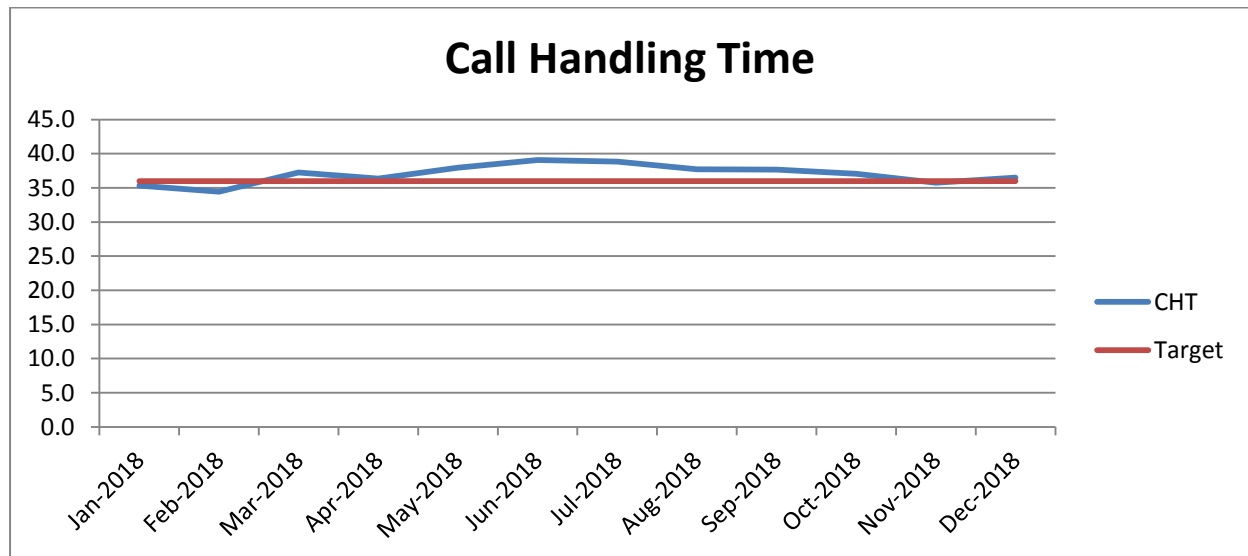


## 4.3 Call Handling Time

The Call Handling Time measures the length of the call from the time the ECAS operator answers the call until the termination of the conversation between the Caller and the Emergency Services operator. 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. Therefore, as the number of silent calls has decreased significantly over the lifetime of the Concession Agreement, there has been a general upward trend in the average call handling time. So although the target threshold set for call handling time was not achieved in 2018, there was no adverse impact in terms of the response to connected calls.

**Figure 5: Call Handling Time 2018**



#### 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 99.57%. In August 2018 the monthly threshold was not achieved. This was due to Ireland experiencing unusually warm and dry weather with prolonged heat wave and drought conditions.

As a direct result of the weather conditions, ECAS experienced the highest volume of normal calls during that period that required onward connection to one of the emergency services, in the past 5 years. With all emergency services very busy, as citizens were on the move, the ECAS call takers spent more time processing calls than normal.

## 4.5 Employee Relations

Whilst BT led on the delivery of the Emergency Call Answering Service under the first concession agreement, the call takers were employed by Conduit Global. On entering in to the second concession agreement BT offered all staff the option to transfer into BT.

## 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 launch in Ireland in Oct 2017. In December 2018 AML was available on 51% of all mobile calls to ECAS.

### 4.7 eCall

eCall is a 112 emergency call 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 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 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 2018 with ECAS receiving 494 ecalls, however 409 of these were test ecalls.

#### 4.8 Promotion of 112

ECAS was represented at the BT Young Scientist Exhibition in the RDS in January 2018. 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 and the Department along with the ECAS continually to 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 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. Recent enhancements in the service have enabled the processing of multi-part texts. This means that incoming texts which span more than one message are now presented in the ECAS as one single message. This has resulted in significant improvements to the speed and accuracy with which such emergency texts can be processed and delivered to the Emergency Services. These 112SMS texts are free of charge to the texter.

Users of this service should pre-register for the service on the website <https://www.112.ie/>.

#### 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

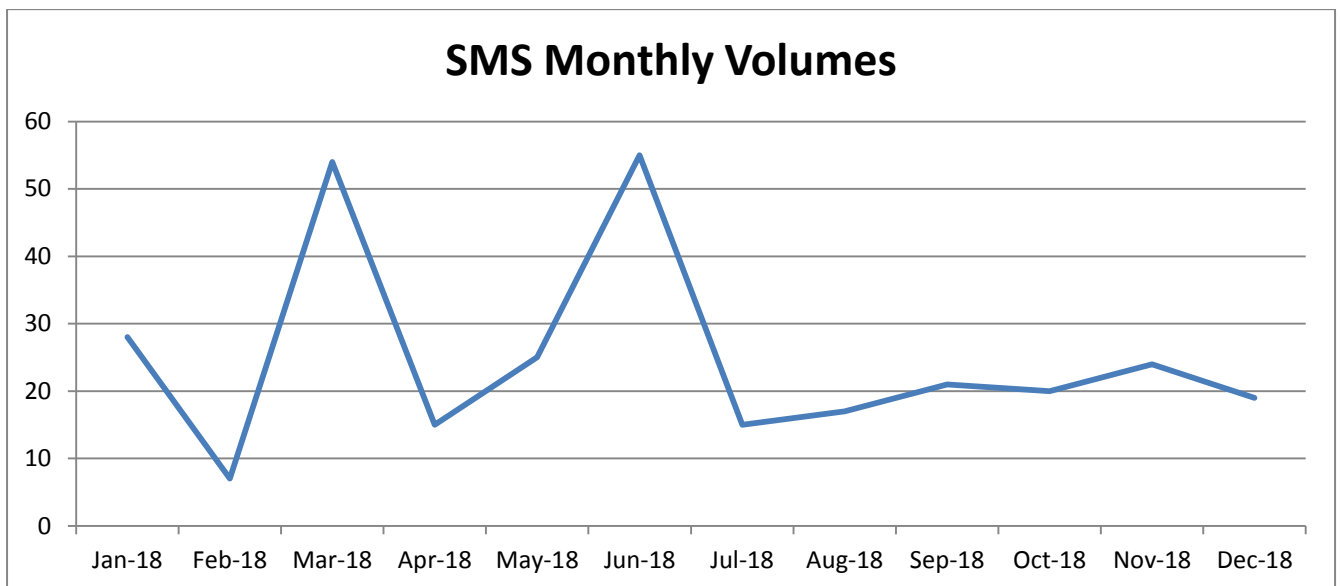
within 3 minutes, the ECAS recommends that a texter sends a second 112SMS. However, if a person is in a position to make a voice call to 112 or 999 the ECAS recommends that the person does so.

Further information is available on the website [https://www.112.ie/112\\_SMS\\_Service/142](https://www.112.ie/112_SMS_Service/142)

### 5.3 SMS Volume

ECAS handled 300 112SMS messages in 2018 receiving approximately 20 genuine messages per month. In keeping with the trend seen with voice calls, ECAS experienced sharp volume increases in 112SMS messages during the significant weather events of 2018.

**Figure 6: Monthly SMS Volumes for 2018**



### 5.4 Minicom 112

ECAS also manages the 112minicom service. The service enables persons with a Minicom device to contact ECAS in the event of an emergency. There were no Minicom calls received in 2018.

## 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 Group** 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 Irish Aviation Authority, the Department of Housing, Planning, Community and Local Government and the ECAS Operator. Its role is to act as an advisory board and advise the Minister for Communications, Climate Action and Environment 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 DCCA 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 telecoms operators 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?
<b>Normal</b>	A normal call where a person makes a service request and the call is connected to an Emergency Service	Y
<b>Cleared Without Speech</b>	A call where the caller clears the call without making a service request	N
<b>Silent Calls</b>	A call which remains open without the caller speaking. These calls are triaged according to the “Silent Call” procedures	N
<b>Noisy Calls</b>	A false call which is generated on a fixed line network, which tend to be weather related;	N
<b>Children Playing</b>	Calls from children that are triaged in accordance with the Young/Old Child/ Adult Playing procedures	Y
<b>Abusive</b>	A call from members of the public that are Abusive to the ECAS Operator where no request for an Emergency Service is made	Y
<b>Non ES Help</b>	A call where the caller makes a request for a service outside of the four named Emergency Service	Y
<b>Misdials</b>	A call where the caller indicates that they have made an error in calling the ECAS	Y
<b>Customer Cancels</b>	A call where the customer speaks and cancels the call	Y
<b>Abandoned</b>	A call that terminates before it can be presented to the next available ECAS Operator	N
<b>Text Devices &amp; Relay Services</b>	Calls that present to the ECAS Operator via the Text Relay interface or are received by the ECAS Operator as a phone call from a registered Relay Service	N
<b>Connected</b>	Any call that is connected to the Emergency Services, this includes normal calls and calls connected due to procedure i.e. every 3 <sup>rd</sup> silent call	Y/N