Rialtas na hÉireann
Government of Ireland

Emergency Call Answering Service

Annual Review

2020

Table of Contents

Table of Figures

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 Emergency Service being requested (An Garda Síochána (AGS), Fire, Ambulance, Coast Guard or Air Traffic Control (in emergencies involving aircraft) and the location of the caller for the purpose of routing the call to the most appropriate centre of that Emergency Service. 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.

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

(i) the relevant Performance Levels;
(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 second annual 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. ComReg set the CHF for the 12 months to 11 February 2021 at €1.77.

2.3 Incidents

In November 2020 the Marine Casualty Investigation Board (MCIB) published its report into into a fatal maritime incident in 2018 off Portronan Pier, Malin Head, Co. Donegal. As the incident involved calls to the Emergency Call Answering Service, both ECAS and the Department of the Environment, Climate and Communications (the Department) were consulted during the course of the investigation. The report is available at MCIB - Portronan Incident Report.

3 COVID-19

The COVID crisis had a significant impact on both the how the operations of the ECAS were delivered and on the nature of the calls handled throughout the year which will be addressed throughout this report.

ECAS took the necessary steps to ensure that services continued uninterrupted throughout the COVID pandemic while also adhering to Government guidelines. Government guidelines on physical distancing and cleaning were followed, with work areas spaced apart and strict guidelines introduced on access to the ECAS sites. The ECAS opened its contingency sites to facilitate with social distancing including the separation of night and day shifts. The ECAS IP network enabled staff to work remotely and approximately 50% of staff worked from home during the period of this review. Figure 1 outlines the locations from where calls were handled by the ECAS during 2020.

Another impact of Covid was a reduced level of incoming calls which reflect the lockdown measures and restricted levels of activity in the country.

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

Figure 1: Call handling locations
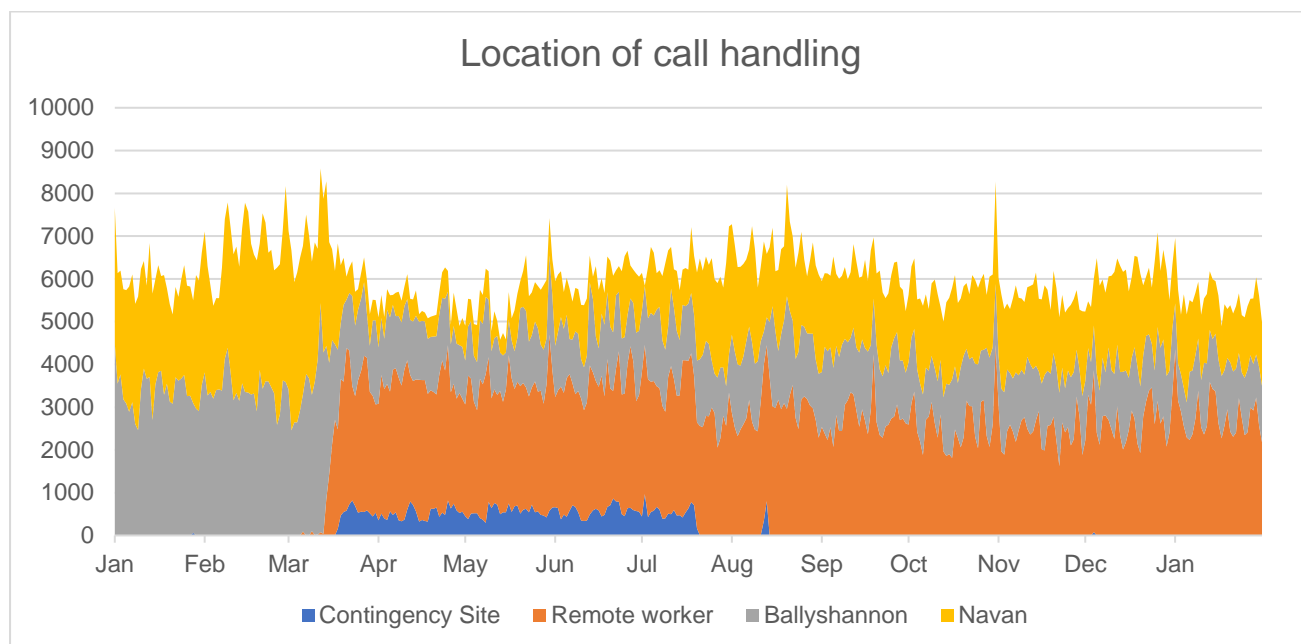
4 Call Volumes

4.1 Call Volumes

In 2020 ECAS received a total of 2,370,268 calls, which represented an increase of 49,298 calls or 2.1% on the previous year. Although this continued the upward trend in emergency calls since 2017, the rate of increase was lower than that in 2019 (2019 saw a 15.6% increase on 2018).

Table 1: Annual Call Volume 2010 – 2020*

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
2020	2,370,268

* Total call volumes excluding SMS test calls and repeat SMS calls

Figure 2 illustrates the monthly call volumes from 2010 to 2020.

From 2015 to 2019 the average call volume was approximately 163,000 calls per month. In 2020 the monthly average was 197,000.

Figure 2: Monthly Call Volumes 2009- 2020
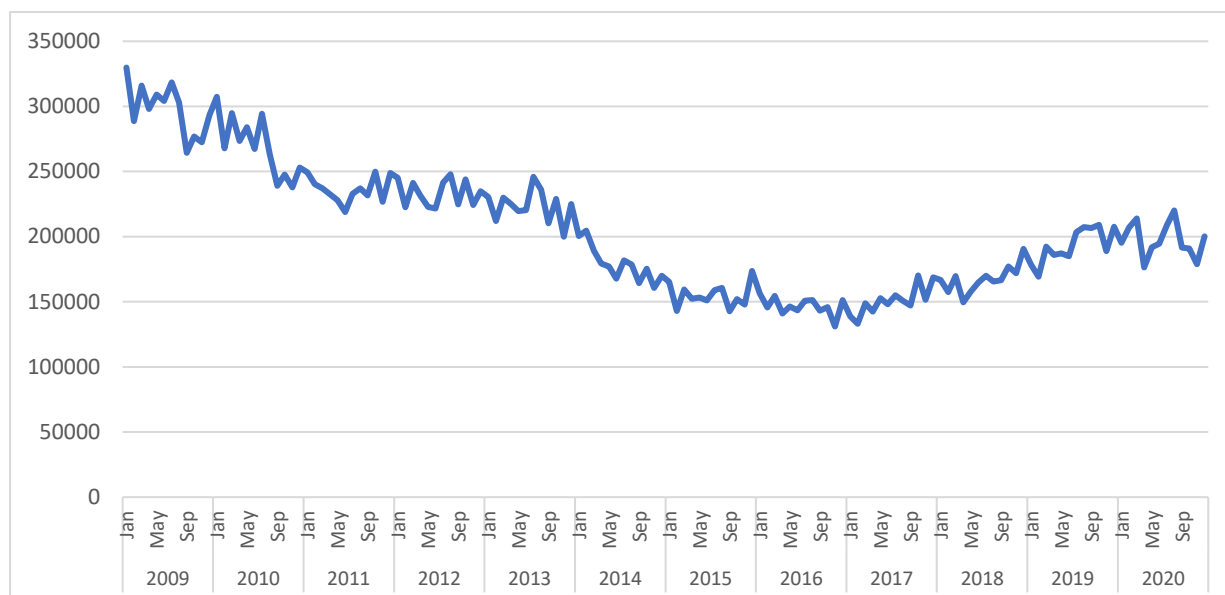
Factors such as atypical weather, flooding, holiday periods and even the number of weekends in a month has the potential to affect call volumes in any given month.

Figure 3 illustrates the variance in daily call volumes in 2020 and highlights three notable peaks in daily call volumes which were recorded in March, September and October. The busiest day of the year with 9,295 calls was 12th of March, which coincided with the beginning of the first Covid 19 public health restrictions. During this time people were advised to call 112 or 999 for Covid 19 related information or in the event of suspected cases where they were unable to make contact with their doctor. The number of Covid-related calls peaked at 544 on 14th of March. Subsequently the HSE established a separate helpline to handle Covid related queries.

As was the case with 2019, adverse weather conditions and Halloween continued to be events which increase daily call volumes.

Figure 3: Daily Call Volumes 2019 vs 2020
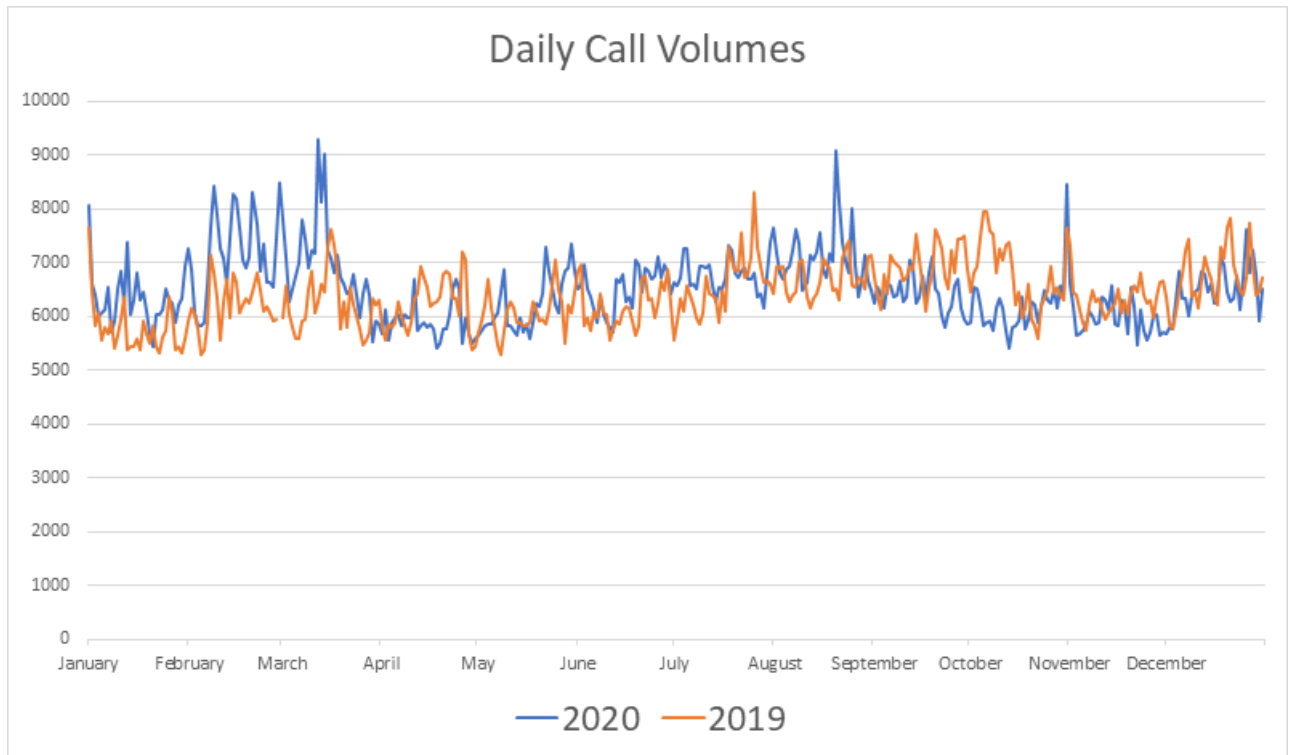
4.2 Categories of Call

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 had been filtered out annually but the increase in call volumes (and the increase in silent and noisy calls) has resulted in the majority of calls being filtered and not transferred to the Emergency Services. In 2020 the percentage of calls filtered out increased to 62.4% (2019: 60.2%) with 37.6% of calls connected to the Emergency Services (Fig.4).

Figure 4 Filtered and Connected calls 2019 vs 2020
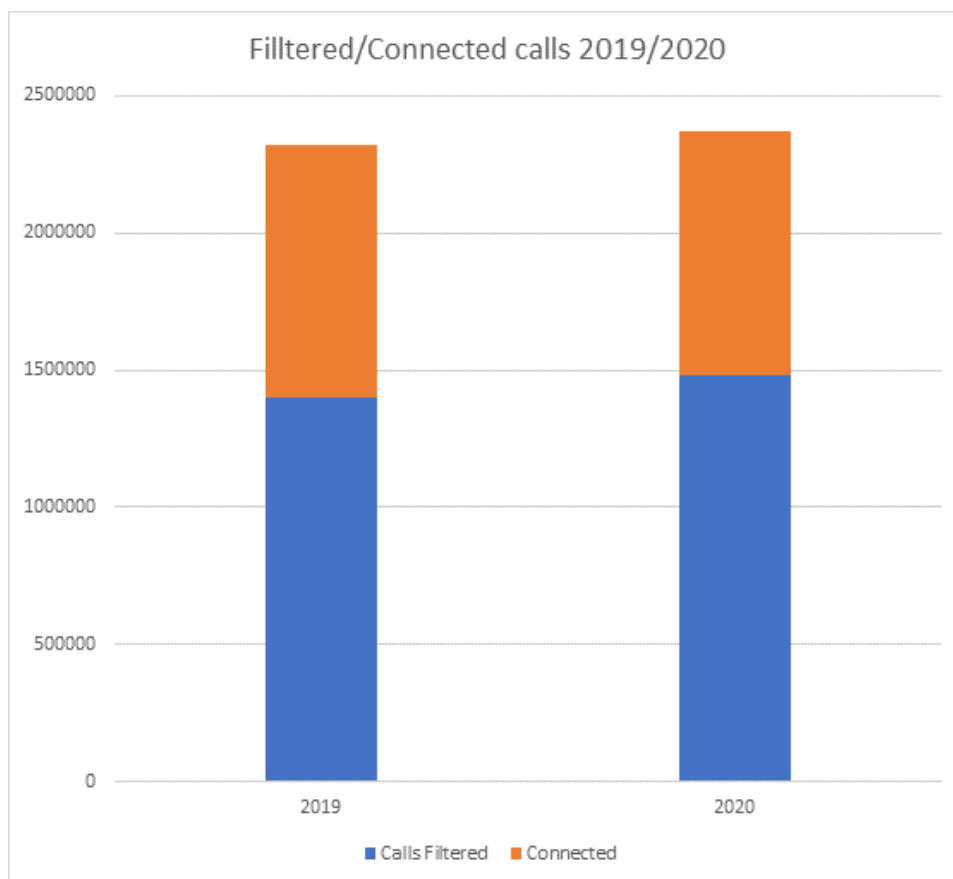
In 2020, the noisy and other call categories saw an increase in volume while the normal, silent and children playing call categories experienced lower call volumes than in 2020. There were 823,871 calls (34.74%) categorised as normal calls and this represents a 3.4% decrease on the number of normal calls received in 2019. This reduction coincides with the lower levels of activity due to the Covid public health restrictions. All other calls (non-normal) amounted to 1,547,743; this represented a 5.2% increase in this category from 2019.

The number of silent calls (calls to the ECAS which remain open without the caller speaking) decreased for the first time since 2016, decreasing by 84,618 to 679,112, down 11.1% on the previous year.

The other call classifications experienced the largest percentage increase in 2020 (an 33% increase on 2019) and accounted for the majority of the increase in call volumes in 2020. This category consists of calls such as misdials, repeat silent calls, cleared without speech and caller cancellations. The noisy call category increased by 17.5% year-on-year.

Table 2: Percentage Call Volume per Classification

† percentage totals in 2013, 2016 & 2020 amount to 99.9% due to rounding

| Call Classification	2010	2011	2012	2013†	2014	2015	2016†	2017	2018	2019	2020†
Normal Call	31.2%	30.4%	28.9%	30.7%	36.8%	42.1%	43.9%	43.6%	42.0%	36.7%	34.7%
Silent Calls	48.5%	52.0%	55.8%	49.5%	43.2%	37.8%	36.1%	38.1%	37.0%	32.9%	28.6%
Noisy Calls	8.0%	5.4%	4.7%	7.4%	7.6%	8.3%	8.5%	7.6%	10.4%	16.6%	19.1%
Children playing	2.7%	3.0%	2.4%	2.1%	2.4%	1.9%	1.8%	1.7%	1.4%	1.0%	0.8%
Other	9.6%	9.2%	8.2%	10.2%	10.1%	9.9%	9.6%	9.0%	9.2%	12.8%	16.7%

Table 3: Call Volumes per Classification*

* Total call volumes including SMS test calls and repeat SMS calls

Call Classification	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Normal Call	354,413	861,154	781,631	765,313	786,088	782,488	773,365	786,531	841,417	852,888	823,871
Silent Calls	550,909	1,474,267	1,512,309	1,238,266	924,883	702,745	636,368	688,282	743,845	763,730	679,112
Noisy Calls	91,041	152,256	127,463	185,763	163,094	153,400	150,001	137,048	209,336	385,016	452,340
Children playing	30,820	85,212	64,592	52,724	50,677	36,057	32,272	31,308	28,011	23,169	20,066
Other	108,557	261,147	225,537	258,668	217,926	184,401	168,485	161,787	185,289	298,425	396,225
Total	1,135,740	2,834,036	2,711,532	2,500,734	2,142,668	1,859,091	1,760,491	1,804,956	2,007,898	2,323,228	2,371,614

AGS received the majority of calls each month with the exception of March when 50.4% of connected calls were to the Ambulance Services. This increase can be attributed to the start of the first Covid 19 public health restrictions when covid related calls were routed through the ECAS. Figure 5 presents a breakdown of all the calls connected to the emergency services

Figure 5: Call Volume Breakdown by Emergency Service

Figure 5: Call Volume Breakdown by Emergency Service
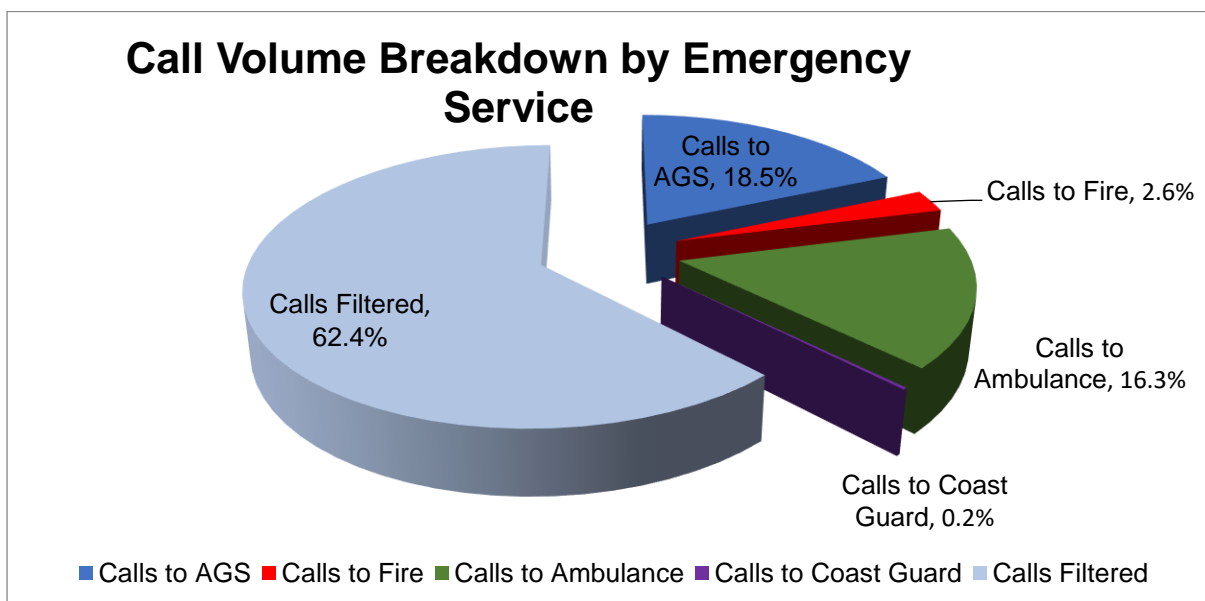
5 Quality of Service

5.1 Overview

The ECAS performed to a consistently high standard in 2020, filtering approximately 1.48m calls and connecting 0.89m calls throughout the year, exceeding the performance levels set out in the ECAS Contract. It has handled over 23.8 million calls since its launch in July 2010. In that time, it has filtered out over 12.48 million calls freeing up Emergency Services time and resources to deal with genuine emergency calls.

The service has been available 24 hours a day, 365/6 days a year since it was launched in July 2010, with 100% availability over 2020.

Calls are routed to the Emergency Services with details of the emergency and the location of the caller within an average of 16.4 seconds. In 2020 the ECAS achieved 99.46% call handling accuracy.

Table 5: ECAS Key Performance Indicators for 2020

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
3	Standards Certification	Monthly	Valid certificate	Yes
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	0.17%
6	Average Speed of Answer	Hourly and daily	< 1.3 sec for 98 % of calls reported as a daily average.	99.45%
7	Accessibility Index (Hit Rate)	15 minute intervals and daily	95% of calls daily	98.32%
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.	16.4s
9a	Average Call Handling Time - Connected calls excluding ES ring time	Hourly and daily	< 55 seconds reported as a daily average.	53.8s
9b	Average Call Handling Time - Connected calls	Hourly and daily	< 60 seconds reported as a daily average.	62.8s
10	Average Call Handling Time - Filtered calls	Hourly and daily	< 20 seconds reported as a daily average.	18.7s
11	Transfer accuracy	Monthly	<0.25% of hand offs routed to wrong Emergency Service	0.06%
12	Call Handling Accuracy	Random sample of 50 calls per ECAS Operator Centre per month	99% Monthly measured independently	99.46%
13	Customer or Emergency Service complaints against ECAS	Monthly	2 per month or 1 for every 200,000 calls	0

5.2 Percentage of Calls Answered within 1.3 seconds

ECAS must answer 98% of calls within 1.3 seconds as per KPI 6 in Table 5 above. In 2020, 99.45% of calls were answered within the 1.3 second target.

Figure 6: Percentage of Calls Answered within 1.3 seconds throughout 2020
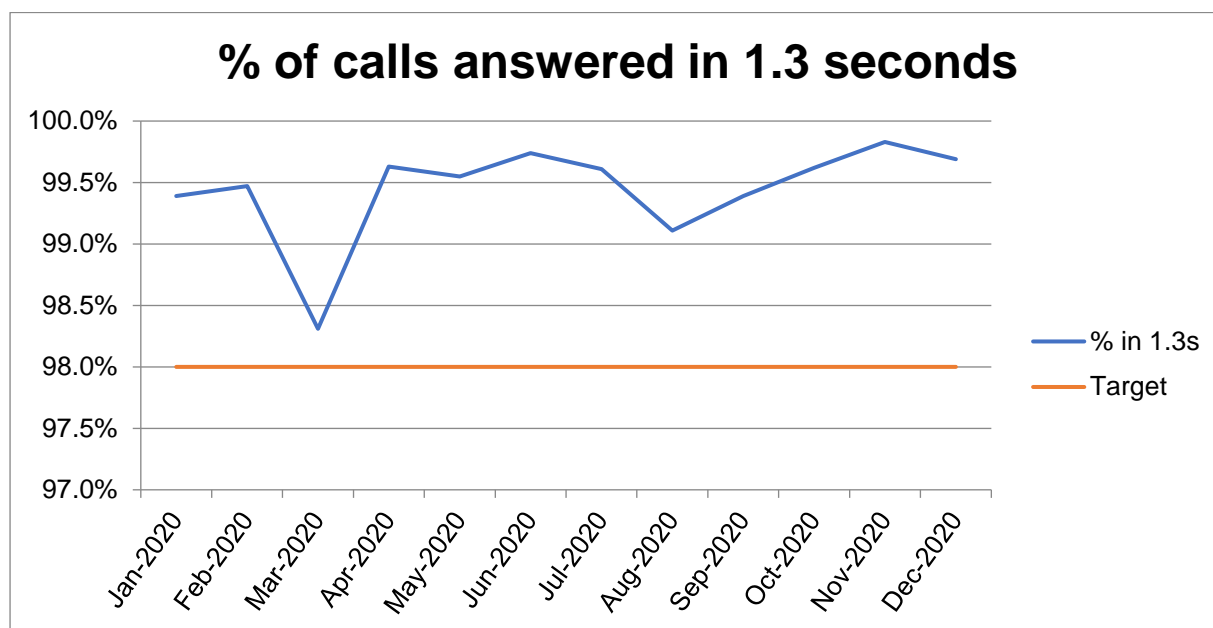
5.3 Call Handling Time and Accessibility Index

Call handling time performance is monitored by a number of KPI's, the most important of which are set out in table 5. 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.

KPI 9A (The average length of time taken from when an Emergency Call is answered by the Operator until monitoring ceases, excluding ringing time to the ES) was not achieved in March and April 2020. In both of these months the time taken in handling the call increased to 55.7 seconds which is above the target of 55 seconds. ECAS monitors ambulance calls longer than other emergency service calls. Due to the percentage of calls connected to the ambulance service increasing during this time, the call handling time to increase above the 55 second target.

KPI 7, Accessibility Index, requires that 95% of 15 minute segments achieve a performance where 95% of Emergency Calls are answered within 3 seconds in that segment. In March 94.75% of 15 minute segments met this metric. This was due to the high level of Covid-19 related calls.

ECAS accrued 9 deficiency points with respect to these two KPIs.

5.4 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 100%.

Service Enhancements

5.5 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 ECAS 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 metres 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 metres.

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 2020 AML was available on 57% of all mobile calls and 41% of SMS text messaging.

5.6 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 the 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 facilitating the Emergency Services to arrive much faster at the scene.

All new models of cars sold in Europe since April 2018 have the capacity to make an eCall. The ECAS system has has the capability to enable it to receive and connect eCalls to the Emergency Services. In 2020 ECAS received 1,882 eCalls, 1,640 of which were manual eCalls (user initiated) and the remaining 242 were automatic (device initiated) eCalls.

5.7 Promotion of 112

The ECAS was represented at the BT Young Scientist Exhibition in the RDS in January 2020. At this event, in conjunction with the Emergency Services, it promoted and publicised 112 to the wide and diverse audience.

The ECAS also gave presentations throughout the year to interested parties to explain the service and promote the use of 112. The availability of the 112 number and its usability throughout the European Union is also publicised on the 112 website.

5.8 Review of Call Handling Procedures

The Department engaged BearingPoint consultants in November 2020 to undertake a review of the current Call Handling Procedures used by ECAS. The Call Handling Procedures are a comprehensive set of operating procedures developed by the ECAS Operator which details the call handling principles and procedures to be followed by its staff in answering emergency calls. The procedures set out the steps and scripts that the call handlers must follow for different categories of call and different scenarios. The procedures are continually kept under review and changes are agreed through an Emergency Services Forum which is chaired by the Department and on which the Emergency Services and the ECAS operator are represented. The review of the Call Handling Procedures is expected to be completed in 2021.

6 Services for Persons with Disabilities

6.1 112 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 may pre-register for the service on the [112 Website](#) or by sending "register" in an SMS to 112.

6.2 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 [112 Website - SMS Service](#)

6.3 SMS Volume

ECAS handled 829 SMS messages in 2020 and connected 271 of these to an Emergency Service.

Figure 7: Monthly SMS Volumes for 2020
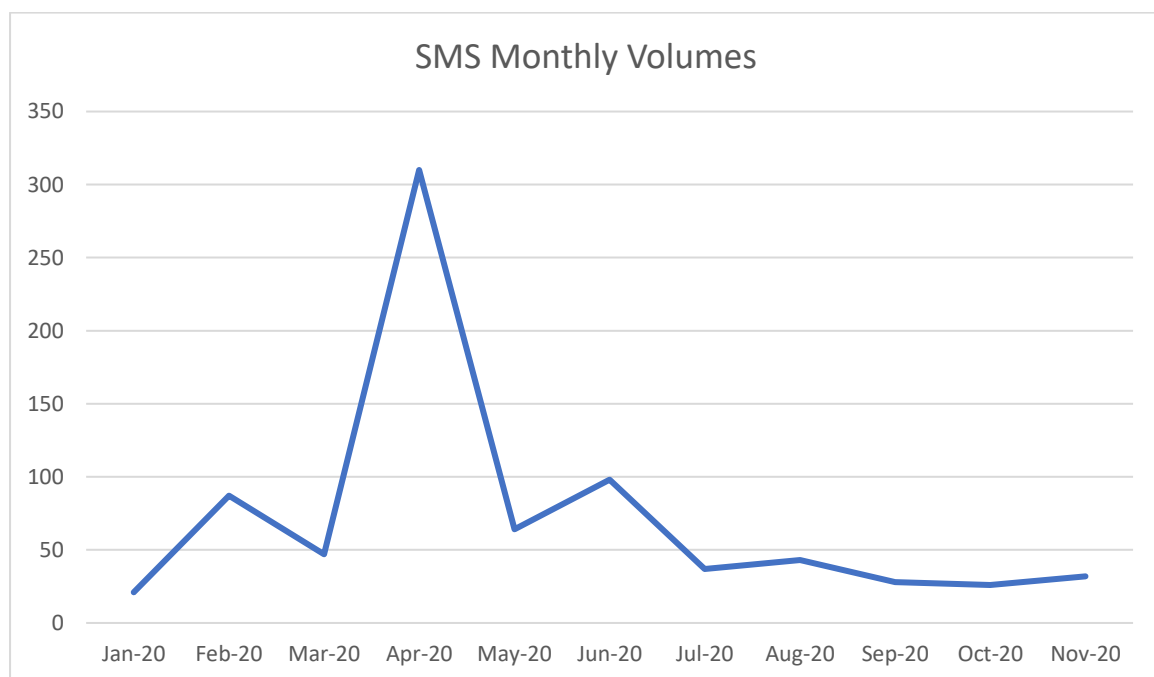
7 ECAS Certification

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 ISO27000 family of standards relating to information and cyber security and offers a comprehensive set of controls, based on best practice in information security.

- **ISO22301:2012** – is a global standard, which provides a documented management framework to protect against or reduce the likelihood of occurrence of disruptive events and to prepare for, respond to, and recover from such disruptive incidents when they arise. In 2021 this certificate moved to ISO22301:2019.

8 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** between the Department and ECAS 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. Due to Covid-19 public health restrictions these audits have been conducted remotely since March of 2020.

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/Older 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 Services	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