RIALTAS NA hÉIREANN
Government of Ireland

Emergency Call Answering Service
Annual Review

2021

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, in emergencies involving aircraft, Air Traffic Control. ECAS also determines the location of the caller for the purpose of routing the call to the most appropriate centre for that Emergency Service. The call is then transferred to the appropriate Emergency Service, or in the case of SMS the messages are read to the emergency service operator, who responds via the ECAS operator, and then takes responsibility for 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.

In 2018, following a public procurement process the contract was awarded to BT Communications Ireland Limited (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 service;
  (iii) Any other matters agreed for review.

This is the third annual review of the performance of the ECAS under the 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. Following a consultation process, ComReg set the CHF for the 12 months to 11 February 2022 at €2.83.

3   COVID-19

The COVID pandemic continued to have a significant impact on how the operations of the ECAS were delivered and on the nature of the calls handled.

ECAS took the necessary steps to ensure that services continued uninterrupted while also adhering to Government guidelines. The ECAS IP network enabled staff to work remotely and a number of staff continued to work from home during the period of this review.

Figure 1 outlines the locations from where calls were handled by the ECAS during 2021.

Figure 1: Call handling locations

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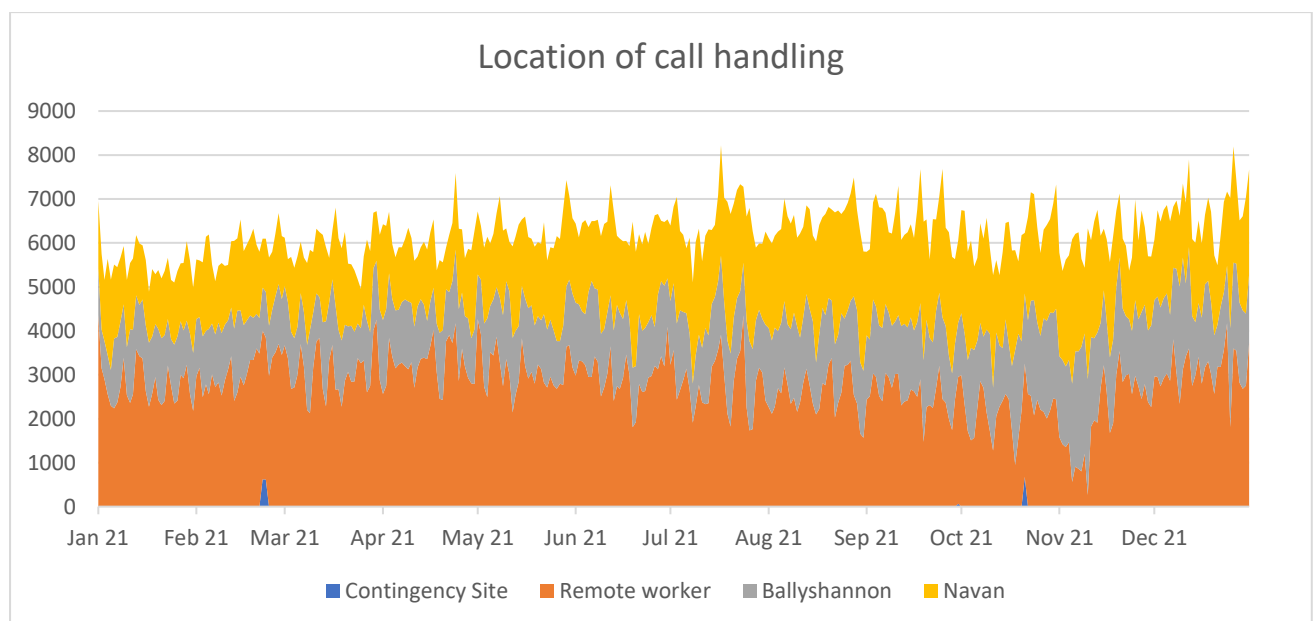
[1] Regulation 5 of the European Communities (Electronic Networks and Services) (Universal Service and Users' Rights) Regulations 2011

4 Call Volumes

4.1 Call Volumes

In 2021 ECAS received a total of 2,378,926 calls, which represented an increase of 8,658 calls or 0.36% on the previous year. Although this continued the upward trend in emergency calls since 2017 the rate of increase was significantly lower than in 2020 (2020 saw a 2.1% increase on 2019).

Table 1: Annual Call Volume 2011 – 2021*

Year	Volume of Calls
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
2021	2,378,926

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

From 2011 to 2021 the average call volume was approximately 189,000 calls per month. In 2021 the monthly average was 197,500 calls, as illustrated in Figure 2 below.

Figure 2: Monthly Call Volumes 2011- 2021
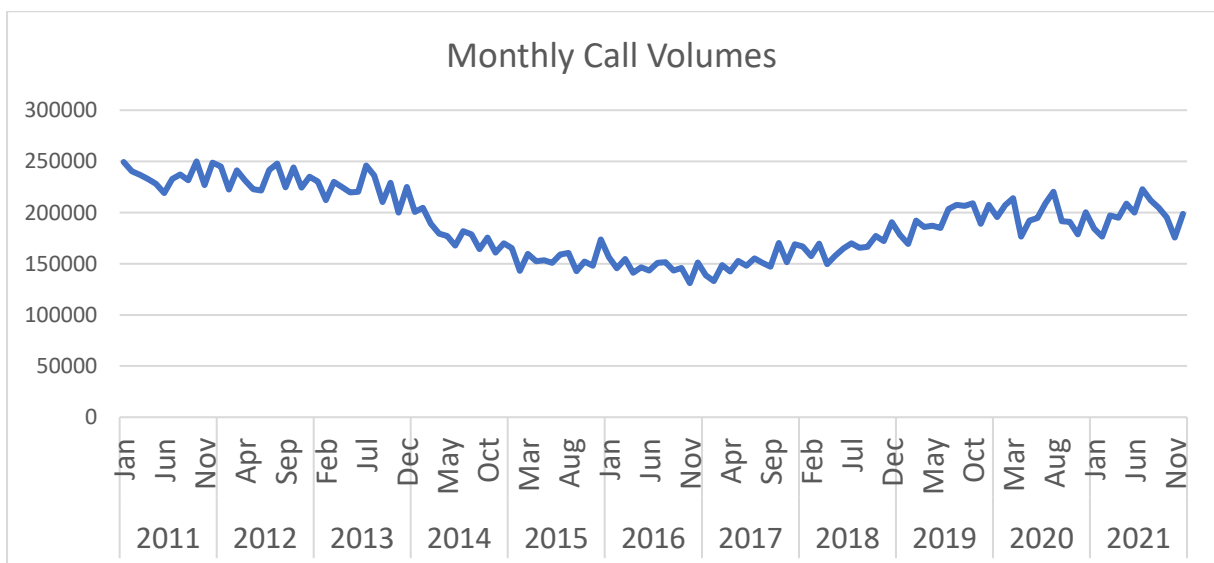
Factors such as atypical weather, flooding, holiday periods and even the number of weekends in a month has the potential to affect call volumes in any given month.

Figure 3 illustrates the variance in daily call volumes in 2021 and highlights notable peaks in call volumes, two of which were recorded in July and October. The busiest day of the year with 8,983 calls was 17th of July, which coincided with a heatwave in the country.

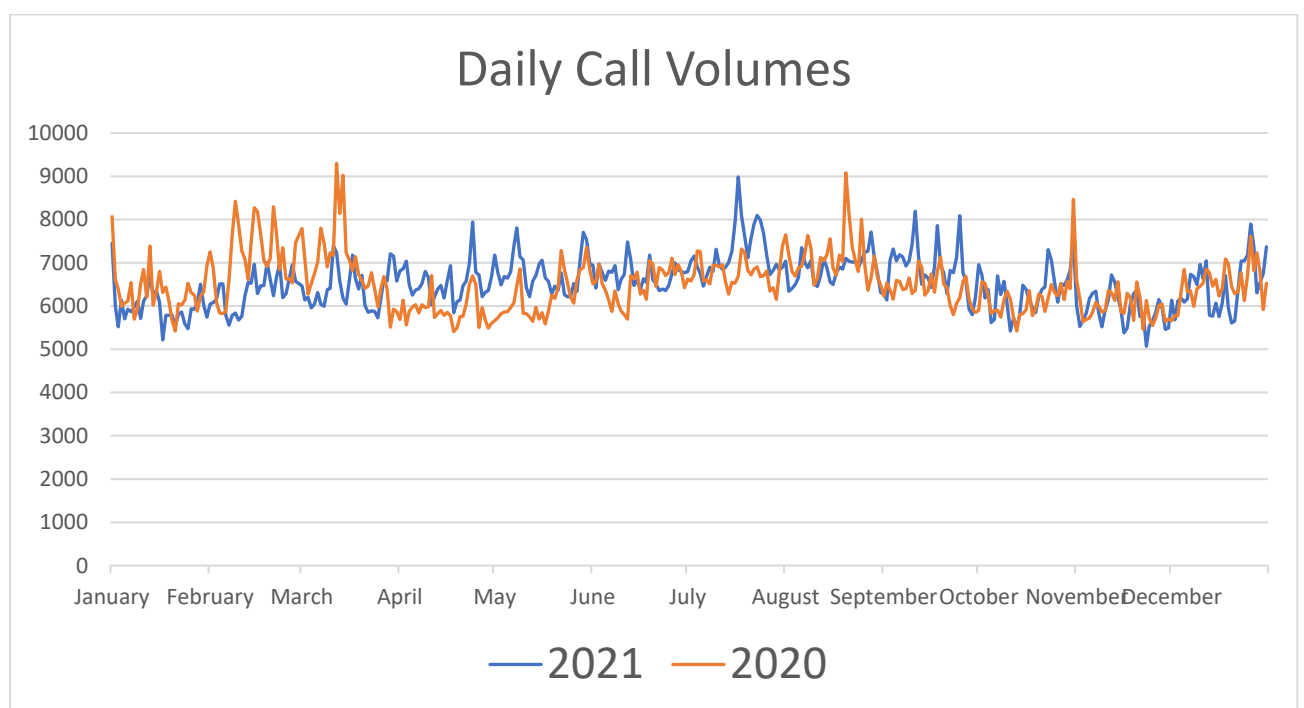As was the case with 2020, adverse weather conditions and Halloween continued to be events which increased daily call volumes.

Figure 3: Daily Call Volumes 2020 vs 2021

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 (for example "Silent Calls") are also forwarded to the Emergency Services adhering to procedures. In recent years approximately 60% of all calls had been filtered out annually. However, the increase in call volumes (and the decrease in "Silent", "Noisy" and "Children Playing" calls) has resulted in fewer calls being filtered (that is, not transferred to the Emergency Services). In

4

2021 the percentage of calls filtered out decreased to 59.2% (2020: 62.44 %) with 40.8% of calls connected to the Emergency Services (Fig.4).

The increase in calls connected to the Emergency Services can be partially attributed to the reduction in call types such as "Noisy Calls" & "Silent Calls". A greater number of "Normal" calls were being received by the ECAS for onward connected to the relevant ES.

Figure 4 Filtered and Connected calls 2020 vs 2021
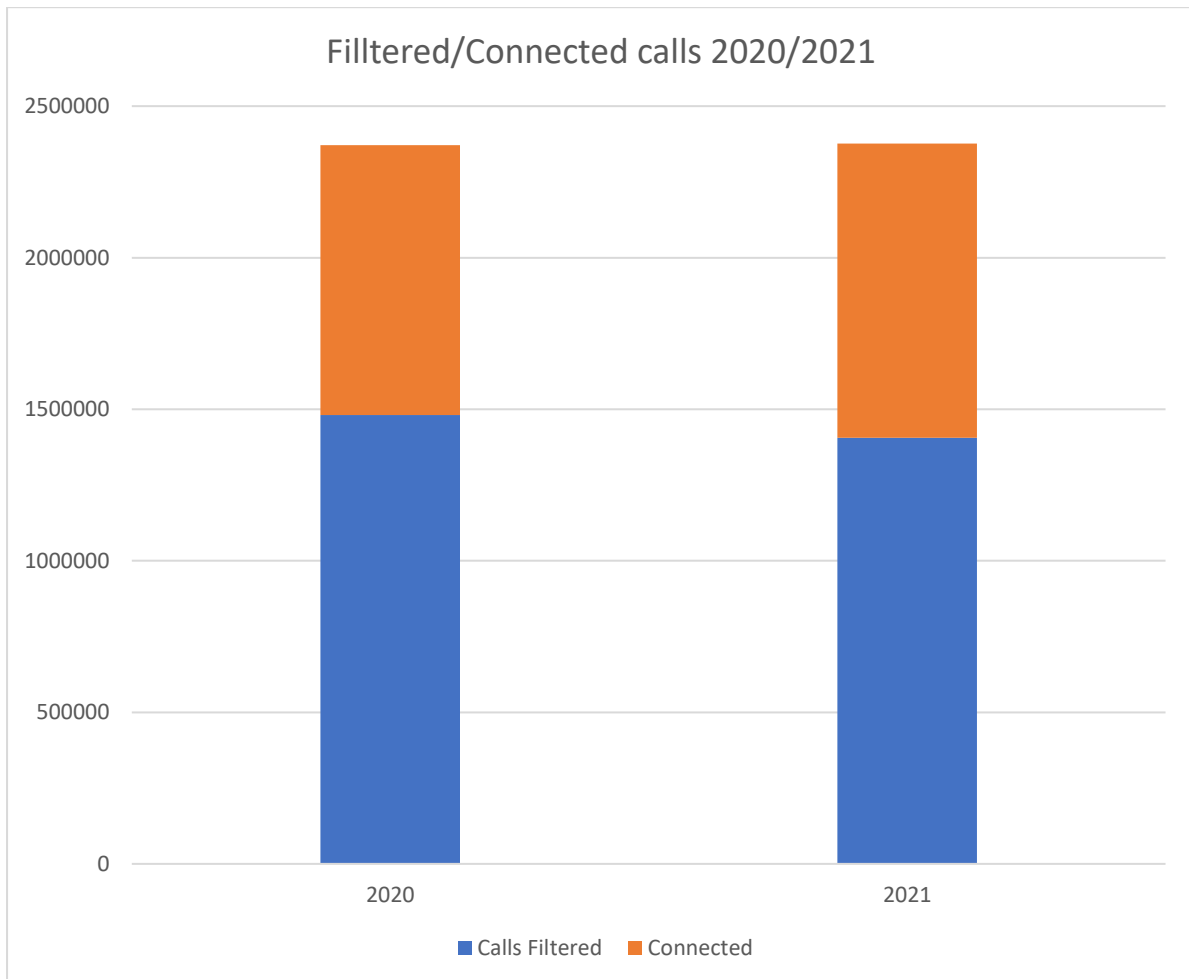
In 2021, "Noisy Calls", "Child Playing" and "Silent Call" categories saw a decrease in volume from the previous year, while the "Normal" and other call categories experienced higher call volumes than in 2020.

There were 904,146 calls (38%) categorised as "Normal" calls and this represented a 3.3% increase on the number of "Normal" calls received in 2020. This increase coincides with the easing of Covid restrictions and fewer of the aforementioned call types being received.

All other calls (e.g. "Misdials", "Cleared Without Speech") amounted to 1,472,626; this represented a 3.3% decrease in these categories of calls from 2020.

The number of "Silent Calls" decreased for the first time since 2016, dropping by 22,638 to 656,474. The other call classifications experienced a slight percentage increase in 2021 (1% more than in 2020). This category consists of calls such as "Non-ES Help", "Misdials" and "Customer Cancels".

Table 2: Percentage Call Volume per Classification

Call Classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Normal Call	28.9%	30.7%	36.8%	42.1%	43.9%	43.6%	42.0%	36.7%	34.7%	38.0%
Silent Calls	55.8%	49.6%	43.1%	37.8%	36.2%	38.1%	37.0%	32.9%	28.6%	27.6%
Noisy Calls	4.7%	7.4%	7.6%	8.3%	8.5%	7.6%	10.4%	16.6%	19.1%	16.0%
Child playing	2.4%	2.1%	2.4%	1.9%	1.8%	1.7%	1.4%	1.0%	0.8%	0.7%
Other	8.2%	10.2%	10.1%	9.9%	9.6%	9.0%	9.2%	12.8%	16.7%	17.7%

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

Table 3: Call Volumes per Classification*

Call Classification	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Normal Call	781,631	765,313	786,088	782,488	773,365	786,531	841,417	852,888	823,871	904,146
Silent Calls	1,512,309	1,238,266	924,883	702,745	636,368	688,282	743,845	763,730	679,112	656,474
Noisy Calls	127,463	185,763	163,094	153,400	150,001	137,048	209,336	385,016	452,340	379,479
Children playing	64,592	52,724	50,677	36,057	32,272	31,308	28,011	23,169	20,066	15,716
Other	225,537	258,668	217,926	184,401	168,485	161,787	185,289	298,425	396,225	420,957
Total	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	2,376,772

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

Figure 5 shows that the Ambulance Service received the highest percentage (19.4%) of connected calls, followed closely by An Garda Síochána with (18.6%). Figures in 2020 show An Garda Síochána receiving the most calls, with 2.2% more calls than the Ambulance Service.

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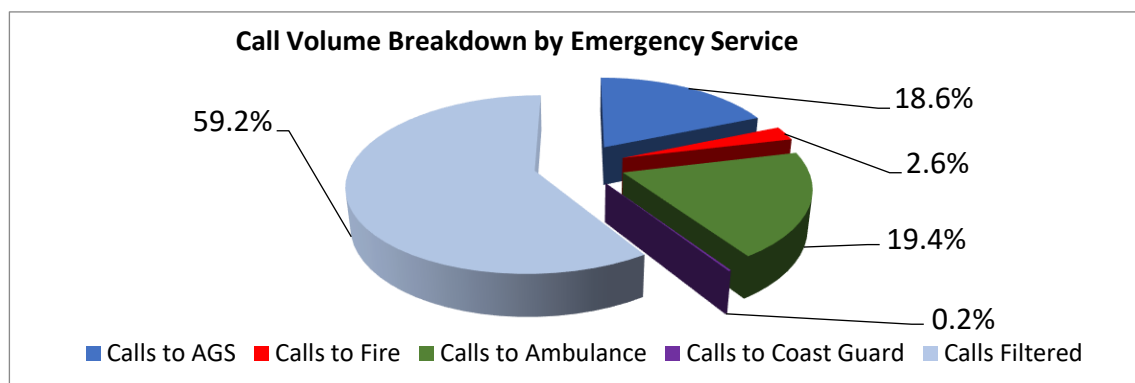
5 Quality of Service

5.1 Overview

The ECAS performed to a consistently high standard in 2021, filtering approximately 1.40m calls and connecting 0.97m calls throughout the year. The ECAS has handled over 26.2 million calls since its launch in July 2010. In that time, it has filtered out over 13.88 million calls freeing up the time and resources of the Emergency Services 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 2021.

Calls are routed to the Emergency Services with details of the location of the caller within an average of 16.2 seconds. In 2021 the ECAS achieved 99.74% call handling accuracy.

Table 4: KPIs for 2021

ID	KPI Title	Frequency	Performance Level	2022 average
1	ECAS Availability	Monthly	99.999%	99.98%
2	Missed Calls	Monthly	Zero missed calls during the measurement period	0
3	Standards Certification	Monthly	Valid / Current Certificate	Y
4	Potential Blocked Emergency 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 Emergency Call Abandon Rate (excl. calls <1s)	Hourly & Daily	<5% of calls reported as a daily average.	0.17%
6	Average Speed of Answer	Hourly & Daily	<1.3s for 98% of calls reported as a daily average.	99.30%
7	Accessibility Index (Hit Rate)	15-minute intervals & Daily	95% of calls daily	97.63%*
8	Connected Call - Average Call Routing Time (excl. abandoned calls and unrouted calls)	Hourly & Daily	< 18 seconds for 90% of routed calls reported as daily average.	16.20s
9a	Average Call Handling Time – Connected calls excluding ES ring time	Hourly & Daily	<55 seconds reported as a daily average.	52.60s
9b	Average Call Handling Time – Calls Connected	Hourly & Daily	<60s reported as a daily average.	63.50s
10	Average Call Handling Time - Filtered calls	Hourly & Daily	< 20 seconds reported as a daily average.	19.10s
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 per month.	At least 99% per ECAS Operator Centre	99.74%
13	Caller 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 4 above. In 2021, 99.3% of calls were answered within the 1.3 second target.

Figure 6: Percentage of Calls Answered within 1.3 seconds throughout 2021
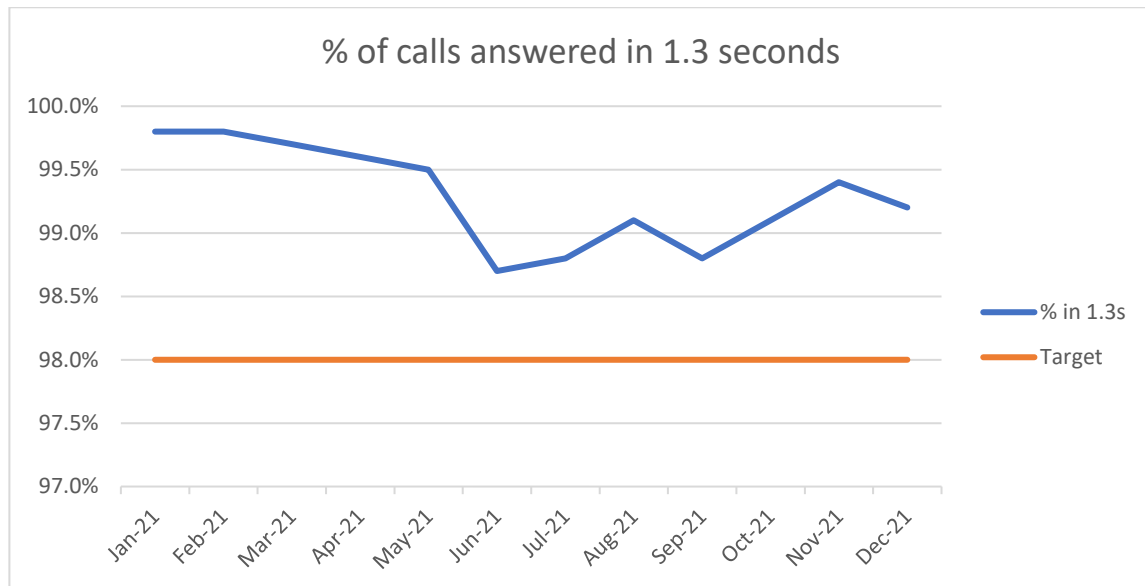
5.3 Call Handling Time and Accessibility Index

Call handling time performance is monitored by a number of KPI's, the most important of which are set out in Table 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 the information 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 achieved in 2021, despite the rise in the number of calls being onward connected to the Emergency Services.

KPI 9B (The average length of time taken from when an Emergency Call is answered by the Operator until monitoring ceases, including ringing time to the ES) was not achieved in 2021. The target of <60 seconds was exceeded by 3.5 seconds, this was due to increased time taken to connect calls to the emergency services.

KPI 7, Accessibility Index, requires that 95% of 15-minute segments achieve a performance where 95% of Emergency Calls are answered within 3 seconds. The monthly average for this KPI in 2021 was 97.63%.

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 99.74%

6 Service Enhancements

6.1 Advance Mobile Location (AML)

AML is a mobile phone technology to supplement current methods of locating mobile callers who contact the Emergency Services. It works by automatically finding a phone's co-ordinates and sending a text message to the ECAS when the 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.

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 2021 AML was available on 63% of all mobile calls and an average of 29% of the1,157 SMS text messages received.

AML for emergency SMS on iOS devices is expected to be available in Q.1 of 2022.

6.2 eCall

eCall is an 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.

In 2021 ECAS received 4,244 eCalls, 3,853 of which were manual eCalls (user initiated) and the remaining 391 were automatic (device initiated) eCalls. This is more than twice the number of eCalls received in 2020.

All new models of cars sold in Europe since April 2018 have the capacity to make an eCall. The ECAS system has the capability to enable it to receive and connect eCalls to the Emergency Services.

6.3 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 consultancy team submitted its final report to the Department in April 2021, the findings of which were agreed and accepted by members of the Emergency Services Forum.

Implementation of the recommended actions outlined in the reports is being managed through the Emergency Services Forum (ESF).

7 Services for Persons with Disabilities

7.1 112 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.

Since 2012 persons in Ireland may use SMS text messaging to contact the ECAS. This service enables persons, in particular those who may be deaf, hard of hearing or speech-impaired to send SMS text messages to the ECAS.

The 112 SMS was enhanced in 2019 to support AML technology allowing ECAS to pass accurate location information, when available, to the Emergency Service. These 112SMS texts are free of charge to the texter.

The requirement to register to use Emergency SMS was removed in Q.4 of 2021.

7.2 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, it is recommended that, if a person is in a position to make a voice call to 112 or 999, the person does so.

Further information is available on the website 112 Website - SMS Service

7.3 SMS Volume

ECAS handled 1157 SMS messages in 2021 and connected almost 500 of these to an Emergency Service.

Figure 7: Monthly SMS Volumes for 2021
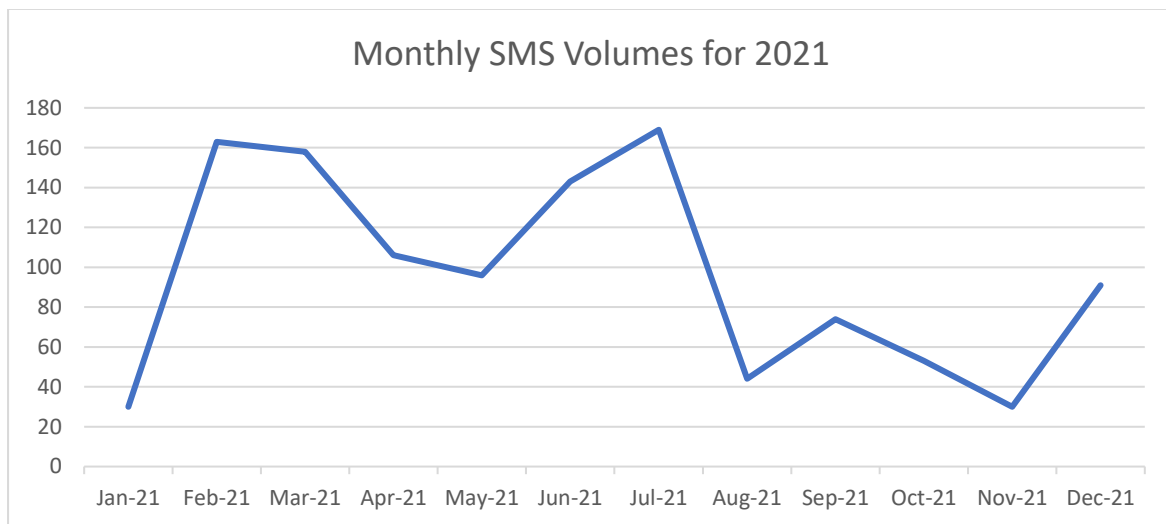
Impacts of new EU Directives

Over the coming years, new means of communicating with the ECAS will need to be facilitated in the context of two EU Directives (European Electronic Communications Code and the European Accessibility Act). Means of communicating used will have to ensure compatibility, interoperability, quality, reliability, and continuity of emergency communications in the European Union. Real Time Text is the minimum requirement to be provided by June 2025.

8 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).

No external survey audit conducted in 2021.

➢ **ISO27001:** This 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.
External surveillance audits completed 3 November 2021.

➢ **ISO22301:** This 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.
Successfully completed external survey audits 3 November 2021.

➢ **ISO14001:** The assessment found the environmental management system continues to be compliant with the requirements of ISO 14001:2015. The Environmental Management System (EMS) was seen to be effective in helping BT Communications Ireland Limited to meet legal and other requirements, deliver business objectives, minimise business risk and generate reliable data for fact-based decision-making by top management. Audit completed 25th of November.

9 Governance

The ECAS Service is managed through a number of forums: the ECAS Emergency Services Group, the ECAS Liaison Committee, the ECAS Industry 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 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** 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 Department also carries out Monthly Audits of Emergency Calls, 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/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