Rialtas na hÉireann
Government of Ireland

Emergency Call Answering Service (ECAS)

Annual Review

2023

Prepared by the Department of the Environment, Climate & Communications
gov.ie/DECC

Table of Contents

1 Introduction 4

2 Background 5

2.1 Basis for the Review 5

2.2 ECAS Funding 5

3 Location of Call Handling 6

4 Emergency Communications 7

4.1 Call Volumes 7

4.2 Categories of Calls 9

4.3 eCall 10

4.4 SMS/Text Messages 11

5 Quality of Service 12

5.1 Overview 12

5.2 Percentage of Calls Answered within 1.3 seconds. 14

5.3 Call Handling Time and Accessibility Index 14

6 Service Enhancements 16

6.1 Training Co-Ordinator Role 16

6.2 Advanced Mobile Location (AML) 16

6.2.1 Presentation of Emergency Call Location Information (ECLI) 16

7 Services for Persons with Disabilities 17

7.1 112 SMS/Text 17

7.1.1 Limitations of 112 SMS/Text Service 17

7.2 Real Time Text 18

8 ECAS Certification 21

9 Governance 19

Appendix 1 20

Table of Figures

Figure 1: Call Handling Locations..... 6
Figure 2: Monthly Call Volumes 2017-2023..... 8
Figure 3: Variance in daily call volumes in 2023..... 8
Figure 4: Daily Call Volumes 2022 vs 2023..... 9
Figure 5: Filtered and Connected Calls – 2022 vs 2023..... 10
Figure 6: Call Volume Breakdown 2023..... 10
Figure 7: Monthly SMS/Text Volumes 2023..... 11
Figure 8: Percentage of calls answered within 1.3 seconds..... 14

1 Introduction

The Emergency Call Answering Service (ECAS) is responsible for answering all 112 and 999 calls, SMS messages (texts) and eCalls, thus providing a vital link between the caller and the Emergency Services. The ECAS seeks to establish the Emergency Service being requested, that is, An Garda Síochána (AGS), Fire Service, Ambulance Service, Irish Coast Guard (IRCG) or, in emergencies involving aircraft, the Irish Aviation Authority (IAA). The ECAS also determines the location of the caller for the purpose of routing the call to the most appropriate control centre for that Emergency Service. The call is then connected to the appropriate Emergency Service or in the case of SMS/Texts, the messages are read to the Emergency Service Operator, who responds via the ECAS Operator, and then takes responsibility for the emergency.

2 Background

2.1 Basis for the Review

Section 58B of the Communications Regulation (Amendment) Act 2007 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 and includes a contractual obligation on BT Ireland to provide up to 24 months of Continuation Services if requested by the Minister.

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

i. 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 fifth annual review of the performance of the ECAS under the current contract.

2.2 ECAS Funding

Emergency communications are free of charge to the caller[1]. The ECAS is funded through a Call Handling Fee ("CHF") which is a fee payable by the telecommunications network operators and the telephone call service provider whenever a call or SMS is made to 999/112. The Commission for Communications Regulation (ComReg) reviews and determines the maximum permitted CHF on an annual basis to ensure the reasonable costs of operating the service, are recoverable within the terms of the contract. Following the consultation process, based on the reasonable cost review ComReg set the CHF at €3.78 for the 12-month period from 12 February 2023 to 11 February 2024.

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

3 Location of Call Handling

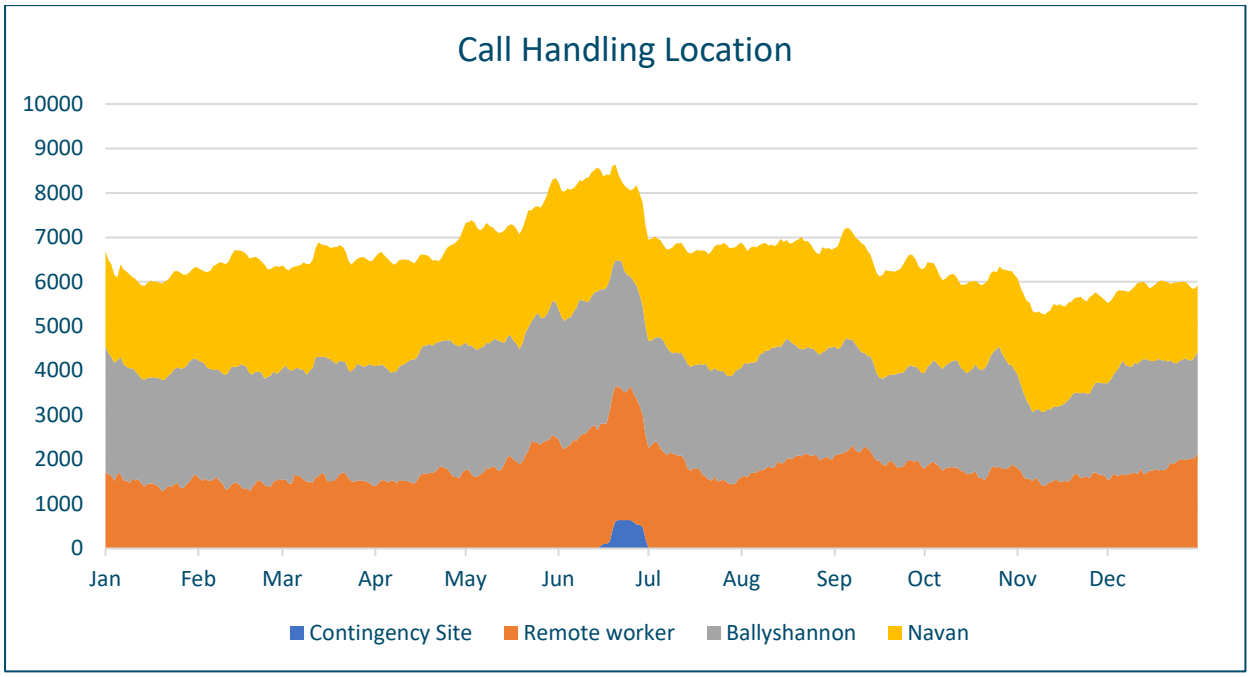
The ECAS uses two active call centres operating as one virtual centre to provide the current ECAS. These centres are located in Ballyshannon, Co. Donegal and Navan, Co. Meath.

The current solution also incorporates a permanent contingency site in Clonshaugh to be used in the event of either Navan or Ballyshannon being unavailable. The benefits of having this contingency site in place was evident in June 2023, when the Navan call centre was evacuated due to damage caused by torrential rain. Service was unaffected as staff in Navan were able to work from the contingency site while necessary repairs were completed.

In addition, the ECAS platform also supports the provision of a secure remote/home working solution. This solution is a valuable resource in the provision of continuity of service in the event of issues arising that have an impact on the availability of staff due to extreme weather conditions or the availability of any one, or all, of the ECAS call centres.

Figure 1 outlines the locations from where calls were handled by the ECAS during 2023.

Figure 1: Call Handling Locations



4 Emergency Communications

4.1 Call Volumes

In 2023 the ECAS received a total of 2,463,629 calls which represented an increase of 292,700 calls, or approximately 13.5%, on the previous year. Several factors attributed to this increase, one factor in particular saw a surge in automatic false calls originating from Android devices following a software update. In some cases, false calls originated from a handset without the handset owner realising or being aware that their mobile phone was making an emergency call[2].

Table 1: Annual Call Volume 2017 – 2023 [Source: BT, 2024]

Year	Volume of Calls
2017*	1,807,568
2018*	2,008,006
2019*	2,320,970
2020*	2,370,268
2021	2,380,641
2022	2,170,929
2023	2,463,629

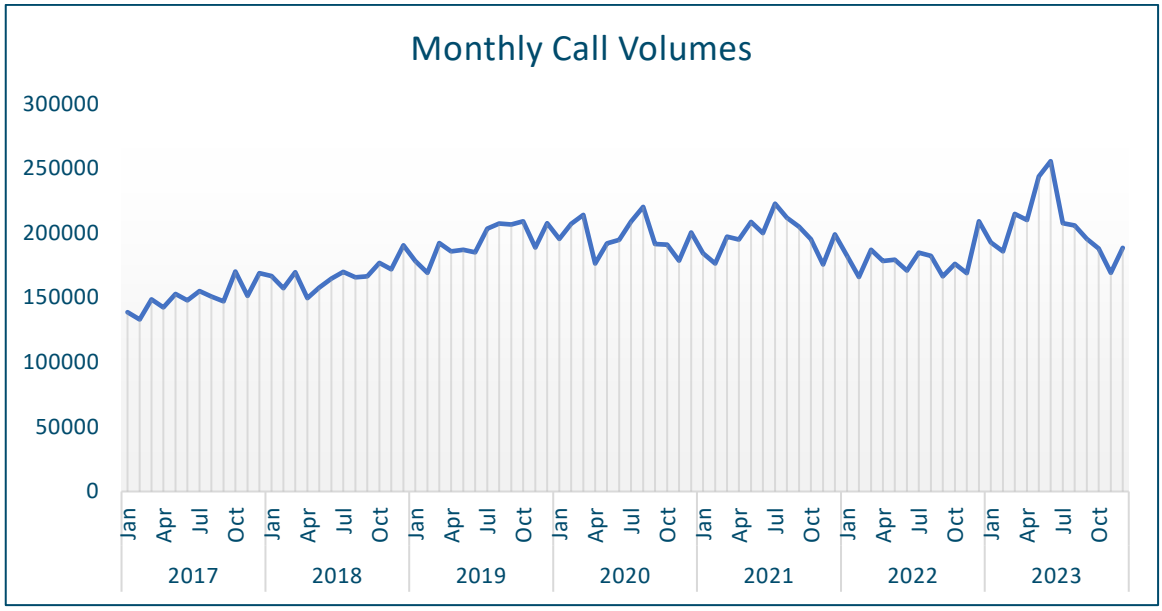
*** Figures include billable calls and SMS only**

It should be noted that the number of calls connected to the Emergency Services increased by 52,463 which is an increase of almost 5% on last year's figure.

From 2017 to 2023 the average monthly call volume was approximately 184,786.
In 2023 the monthly average was 205,302 calls, as illustrated in Figure 2 below.

[2] False Calls Originating from Android Devices Acknowledged by Handset Operators - EENA

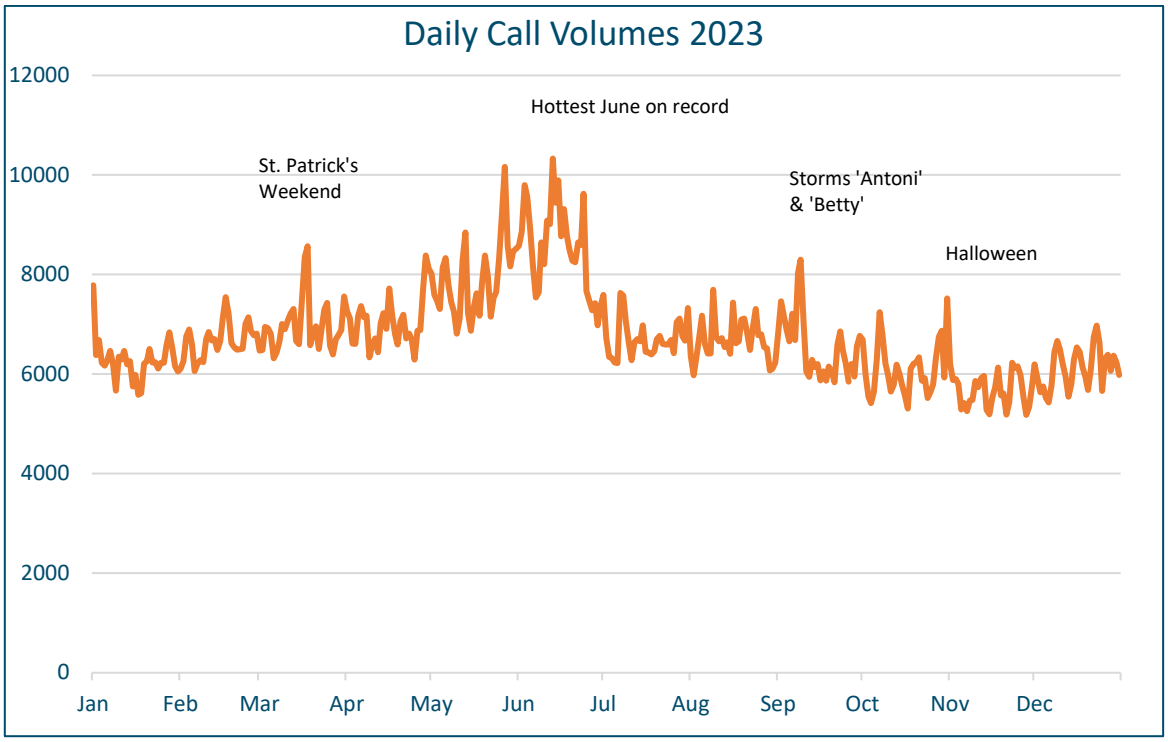
Figure 2: Monthly Call Volumes 2017-2023 [Source: BT, 2024]



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.

June 2023 was the warmest June on record, while March and July were recorded as being the wettest. That was further impacted by two named storms in September, all of which led to a peak in calls to the ECAS around this time and can be clearly seen in figure 3 below.

Figure 3: Variance in daily call volumes in 2023. [Source: BT, 2024]

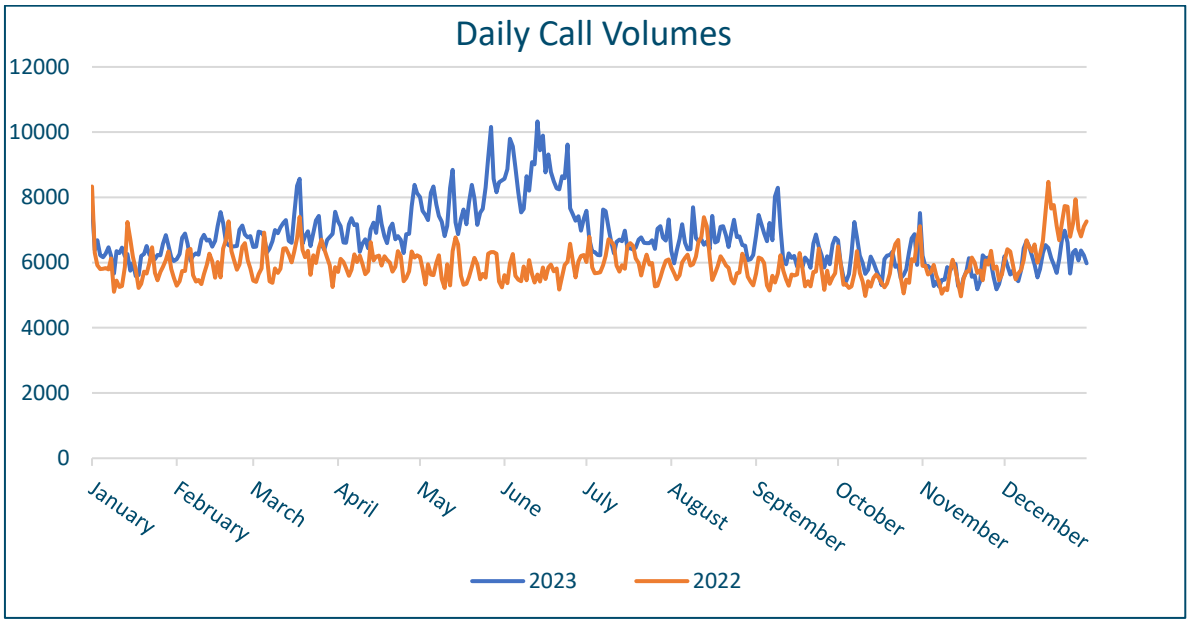


2023 saw a significant increase in silent calls due to an android software update which introduced an emergency calling function. The update allowed users to automatically call the emergency services by simply pressing the power button on Android devices a certain number of times. The roll-out of this update globally saw the volume of false calls rise dramatically in each country where the update was applied. This increase is evident in figure 4, below. By year-end, the issue was largely resolved globally.

The average daily call volume between June and August was 7,921, compared to 5,914 average daily calls for the same period in 2022, which is an increase of almost 34%.

The average number of calls received daily, in June alone, was 8,536 with over 10,000 calls received on June 13. The holiday period was a busy time with over 6,247 calls as a daily average between December 20 and December 31.

Figure 4: Daily Call Volumes 2022 vs 2023. [Source: BT, 2024]



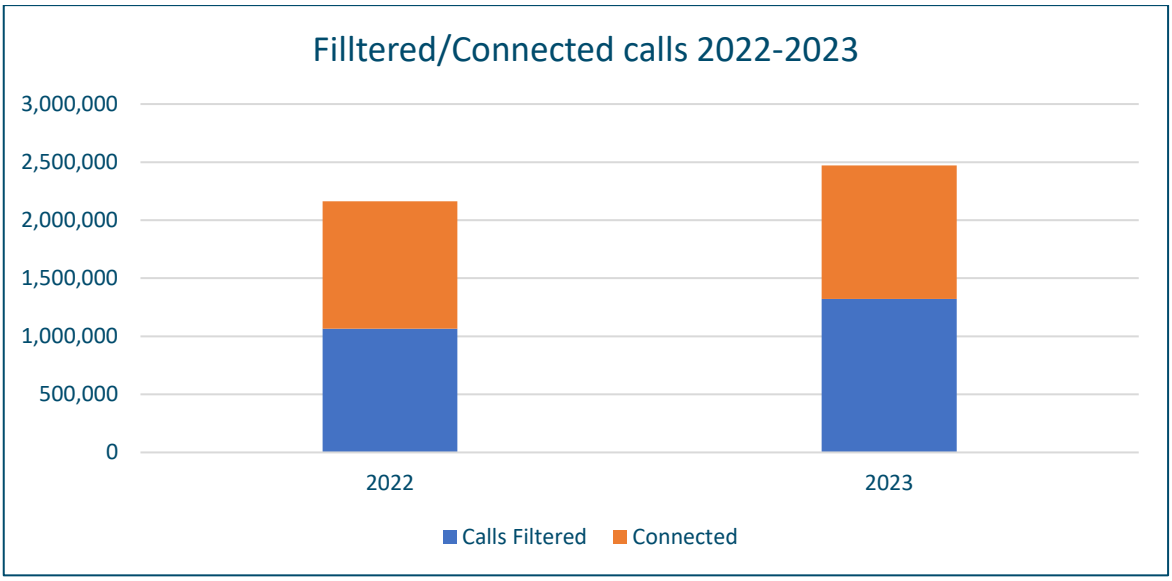
4.2 Categories of Calls

All calls to the ECAS are classified by category and a glossary of call classifications is set out in Appendix 1.

In addition to “Normal” calls, which are calls where an Emergency Service is requested and are connected accordingly, a proportion of calls from other classifications (for example, “Silent Calls”) are also forwarded to the Emergency Services, adhering to strict procedures. In the past approximately 60% of all calls were filtered out annually. However, in 2023 the percentage of calls filtered was 56.4% (49.59% in 2022) with 43.6% of calls connected to the Emergency Services (Figure 5).

While figures for 2023 show an overall increase in call volumes, figure 5 shows a decrease in ‘Normal Calls’ of almost 4%.

Figure 5: Filtered and Connected Calls – 2022 vs 2023. [Source: BT, 2024]



In 2023, “Noisy Calls” continued to decrease from 4.8% to 1.5% in volume from the previous year, while “Abandoned” calls (a call that terminates before it can be presented to the next available ECAS Operator) increased by 16% since 2022.

“Silent Calls” saw an increase of 270,000 calls (7.2%), primarily due to the android issue experienced. Other call categories (for example “Non-ES Help”, “Cleared without speech”, “Misdials”) saw a marginal increase in 2023.

Table 2: Percentage Call Volume per Classification [Source: BT, 2024]

Call Classification	2017	2018	2019	2020	2021	2022	2023
Normal Call	43.6%	42.0%	36.7%	34.7%	38.1%	46.9%	43.2%
Silent Calls	38.1%	37.0%	32.9%	28.6%	27.6%	32.7%	39.9%
Noisy Calls	7.6%	10.4%	16.6%	19.1%	15.9%	4.8%	1.5%
Other	10.7%	10.6%	13.8%	17.5%	18.4%	15.5%	15.4%

† Percentage totals may be subject to rounding

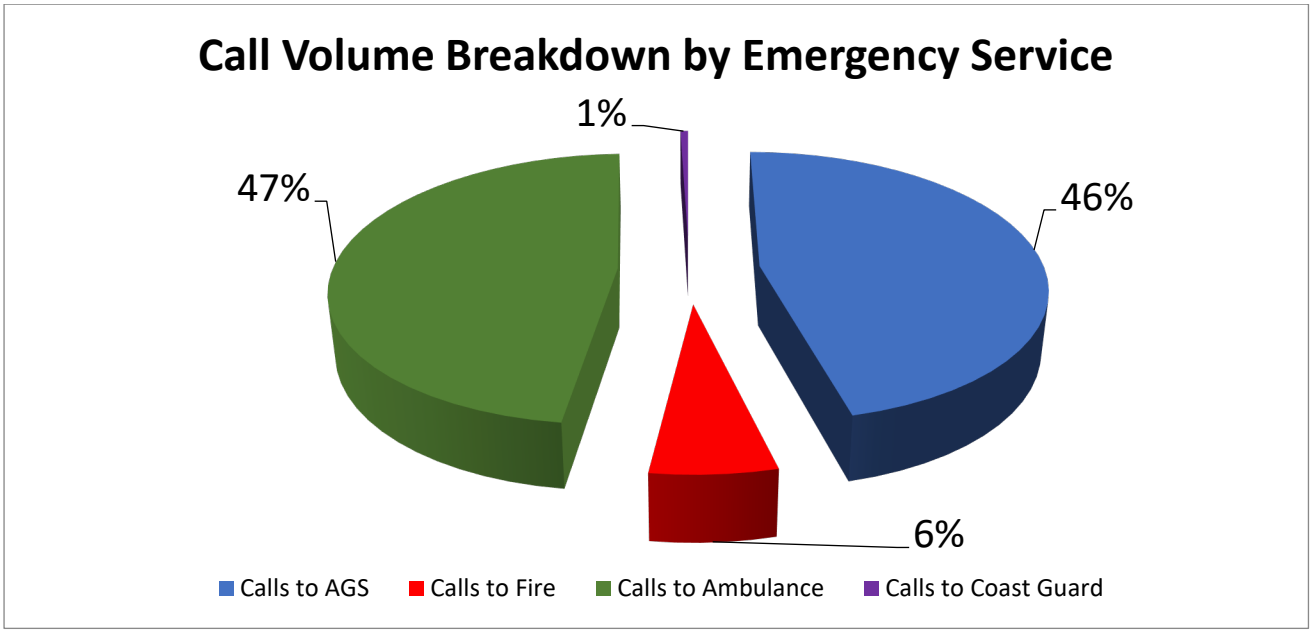
Table 3: Call Volumes per Classification* [Source: BT, 2024]

Call Classification	2017	2018	2019	2020	2021	2022	2023
Normal Call	786,531	841,417	852,888	823,871	905,925	1,019,126	1,063,522
Silent Calls	688,282	743,845	763,730	679,112	656,500	710,671	981,908
Noisy Calls	137,048	209,336	385,016	452,340	379,481	103,565	38,142
Other	193,095	213,300	321,594	416,291	438,735	337,567	380,057
Total	**1,804,956**	**2,007,898**	**2,323,228**	**2,371,614**	**2,380,641**	**2,170,929**	**2,463,629**

As recommended by the Bearing Report of 2021, the "Younger Child Playing" and "Older Child Playing" classifications were removed. Previously reported figures on these classifications are now reported under the classification "Other".

In 2023 the majority of calls forwarded to the Emergency Services were connected to the Ambulance Service, at 47% of the calls, followed closely by An Garda Síochána with 46% of the calls. Fire Services and Coast Guard made up the remaining 6% of calls received.

Figure 6: Call Volume Breakdown 2023 [Source: BT, 2024]



4.3 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.

All new types of cars and light commercial vehicles approved for manufacture after 31 March 2018, must have the 112-based eCall system installed. The ECAS system has the capability to enable it to receive eCalls and connect them to the Emergency Services.

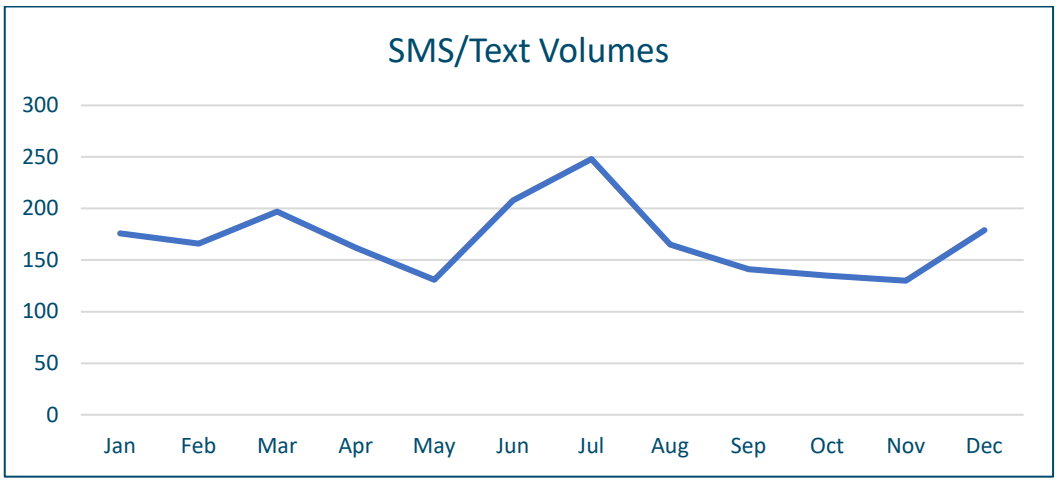
In 2023 a total of 12,050 eCalls were received. 828 of the eCalls received were device initiated (activated automatically). 11,222 of the eCalls received were activated manually. The total number of eCalls received in 2023 increased by 4,978 (59%) from those received in 2022.

ECAS Operators spent over 175 hours dealing with eCalls in 2023.

4.4 SMS/Text Messages

The ECAS handled 2,038 SMS/Text messages in 2023, which is an increase of over 10% on the volume received in 2022. More than 850 of the messages received were onward connected to one of the emergency services.

Figure 7: Monthly SMS/Text Volumes 2023 [Source: BT, 2024]



5 Quality of Service

5.1 Overview

The ECAS has handled over 11.5 million calls since the commencement of the current contract. In that time, they have filtered out over 6.6 million calls freeing up the time and resources of the Emergency Services to deal with genuine emergency calls.

The Minister and BT Ireland have agreed a set of KPIs (Table 4) to measure the performance of the services and system provided by the ECAS Operator. The ECAS submit daily, monthly, and quarterly reports to the DECC and ComReg in line with the terms of the contract.

The Department also carries out Monthly Audits of Emergency Calls, to monitor call handling procedures and quality of service. In 2023 ECAS achieved 99.79% call handling accuracy which is above the 99% threshold.

Table 4: KPIs for 2023 [Source: BT, 2024]

ID	KPI Title	Frequency	Performance Level	2023 average
1	ECAS Availability	Monthly	99.999%	100%
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.	0.42%
6a*	Average Speed of Answer *(excludes delays > 10s)*	Hourly & Daily	<1.3s for 98% of calls reported as a daily average.	99.78%
6b	Average Speed of Answer	Hourly & Daily	<1.3 sec for 98 % of calls reported as a daily average.	98.50%
7a*	Accessibility Index (Hit Rate) *(excludes delays > 10s)*	15-minute intervals & Daily	95% of calls daily answered within 3 seconds	99.05%
7b	Accessibility Index (Hit Rate)	15-minute intervals & Daily	95% of calls daily answered within 3 seconds	94.69%
8	Connected Call – Average Call Routing Time *(excl. abandoned & unrouted calls)*	Hourly & Daily	<18 seconds for 90% of routed calls reported as daily average.	15.83s
9a	Average Call Handling Time – Connected Calls *(excluding delays >10sec)*	Hourly & Daily	<55 seconds reported as a daily average.	52.96s
9b	Average Call Handling Time – Calls Connected	Hourly & Daily	<60s reported as a daily average.	69.95s
10	Average Call Handling Time – Filtered calls	Hourly & Daily	<20 seconds reported as a daily average.	17.89s
11	Transfer Accuracy	Monthly	<0.25% of hand offs routed to wrong Emergency Service	0.07%
12	Call Handling Accuracy	Random sample of 50 calls per ECAS Operator per month.	At least 99% per ECAS Operator Centre	99.79%
13	Caller or Emergency Service complaints against the ECAS.	Monthly	2 per month or 1 for every 200,000 calls	0

***In June 2023 KPIs were amended to allow for governance of the ECAS performance, while taking account of external factors. Average for KPI 6a and 7a are based on the final two quarters of 2023.**

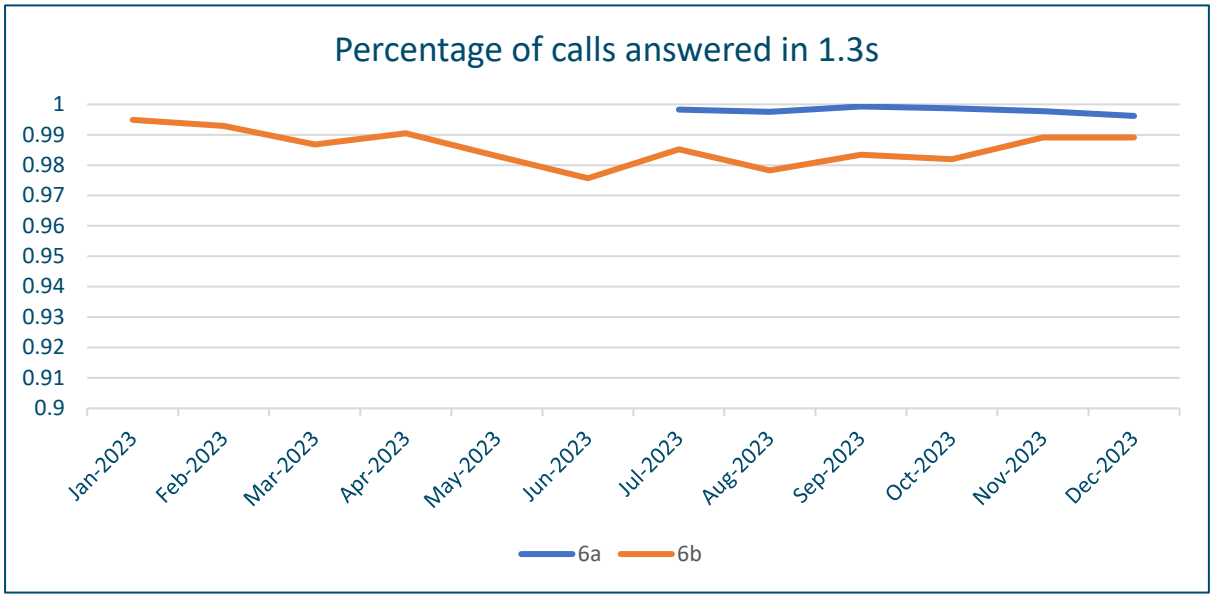
5.2 Percentage of Calls Answered within 1.3 seconds.

The ECAS are required to answer 98% of calls within 1.3 seconds as per KPI 6 in Table 4 above. In June 2023 a change request was approved whereby KPI 6 was amended to provide the true measure of the ECAS performance by essentially removing the impact caused by external factors from the calculation. It is now reported as follows:

- KPI 6a introduced a threshold for Emergency Service answer times as being capped at 10 seconds. Average Emergency Service answer times are calculated for every 15-minute period within a measurement period. Where the ES average answer time for a 15min period exceeds 10 seconds, calls that fail to be answered within 1.3 seconds within that segment are excluded from this calculation.
- KPI 6b continues to calculate the original measurement.

This change will be reviewed by the Department in January 2024.

Figure 8: Percentage of calls answered within 1.3 seconds. [Source: BT, 2024]



5.3 Call Handling Time and Accessibility Index

Call handling time performance is monitored by a number of KPI's, which are set out in Table 4 (above). Connected calls take significantly longer to handle on average than other categories of calls due to the time taken to obtain details from the callers and ensuring the correct handover procedures are followed to accurately connect the caller to the correct Emergency Services Control Centre. KPI9 measures the average length of time taken from when an emergency call is answered by the ECAS Operator until monitoring, by the ECAS Operator, ceases. This KPI has, since 2020, been reported on as follows:

- KPI 9a excludes the time it takes the Emergency Services to answer (ring time) the emergency call, this provides a clearer measurement of ECAS performance. Calls were monitored for an average of 53 seconds which is within the performance level of 60 seconds.
- KPI 9b includes the ring time, an increase in the time taken for Emergency Services to answer has resulted in the average of 70 seconds, not meeting the performance level of 60 seconds. The Department took actions to raise this with the relevant emergency services.

KPI 7, Accessibility Index ("Hit Rate"), requires that 95% of Emergency Calls are answered within 3 seconds. However, in conjunction with the changes made to KPI 6, KPI 7 is now reported as follows:

- KPI 7a introduced a threshold for Emergency Service answer times as being capped at 10 seconds. Average Emergency Service answer times are calculated for every 15-minute period within a measurement period. Where the ES average answer time for a 15min period exceeds 10 seconds, that segment is excluded from this calculation.
- KPI 7b continues to calculate the original measurement.

The average 'Hit Rate' for 2023 was 94.69% which is below the allowable threshold of 95%. When external factors, such as the time taken to connect to the Emergency Services, were considered, the average Hit Rate for the 6 months, from July to December was 99.05%.

This change will be reviewed by the Department in January 2024.

6 Service Enhancements

6.1 Training Co-Ordinator Role

While this role was enabled in the contract, the role was never fully realised. This position was expanded in 2023 to a full-time position.

A crucial part of the Training Co-Ordinator's role will be to improve efficiency, not just among ECAS Operators, but also between the ECAS and the Emergency Services through the delivery of training and knowledge sharing programs.

A training coordinator will ensure improved quality and consistency in the delivery of training. The upgrade to NGX Platform will bring additional training needs to the team, and these will be managed by the Training Co-Ordinator.

6.2 Advanced Mobile Location (AML)

Advanced Mobile Location (AML) is a technology on smart phones that works automatically by identifying the smart phone's co-ordinates and sending the details within an SMS when an emergency number (112/999) is called. The availability of AML sent with mobile Emergency Calls that terminate at the ECAS has steadily increased since its formal launch in Ireland in October 2017. When an Emergency Communication is made on a compatible Android or Apple device, AML is activated, and the caller's location details are automatically passed to the relevant Emergency Service.

ECAS received almost 1.5m calls from mobile phones in 2023. AML was available on between 65.3% of these phone calls and on an average of 50.2% of all SMS messages received.

6.2.1 Presentation of Emergency Call Location Information (ECLI)

In December 2023 the Commission for Communications Regulations (ComReg) published a consultation on accuracy and reliability criteria in relation to ECLI, pursuant to Regulation 93(7)(d) of the Code Regulations[3] as well as Commission Delegated Regulation (EU) 2023/444 of 16 December 2022, (the "Delegated Regulation").

The Regulation 93(7)(d) requires ComReg to lay down criteria pertaining to the accuracy and reliability of the caller location information provided with emergency communications (112/999) to the ECAS, and service providers must comply with those criteria.

[3] S.I. No. 444 of 2022 - European Union (Electronic Communications Code) Regulations 2022

The deadline for receipt of submissions to this consultation paper will be on 5 February 2024 and once ComReg has considered the responses received to this consultation, the decision will be issued.

Further information can be found here.

7 Services for Persons with Disabilities

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.

Over the coming years, new means of communicating with the ECAS will be facilitated to ensure compatibility, interoperability, quality, reliability, and continuity of emergency communications in the European Union. For example, Real Time Text is a requirement to be provided by June 2025 under the European Accessibility Act. This is discussed further in Section 7.2.

7.1 112 SMS/Text

SMS/Text messages are received and answered by the ECAS operator and where necessary the Emergency Service requested is contacted and the ECAS Operator acts as a relay between the texter and the emergency service operator using the text message service.

112 SMS texts are free of charge to the texter. The requirement to pre-register for the service was removed in 2021.

7.1.1 Limitations of 112 SMS/Text Service

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

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

7.2 Real Time Text

Real Time Text (RTT) is a requirement of the European Accessibility Act (Directive 2019/882/EU)[4] and must be supported by the existing ECAS and available to all users by June 2025.

RTT is seen as an enhancement of the current text-based service allowing the recipient (the ECAS) to see immediately what the sender is typing character by character. RTT calls from some devices may include an audio channel at the same time. Compared to traditional text-based services RTT will allow for greater interaction, interpretation, and anticipation between the caller and the Operator. In effect an RTT communication can be considered as a voice conversation in typed format.

The project commenced in September, with testing scheduled for May 2024.

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). BTCIL have continued to maintain ISO9001 accreditation throughout 2023.
- **ISO27001** - 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. The ECAS have continued to manage and maintain ISO27001 throughout 2023 and during this period the ECAS was audited 4 times, twice internally and twice externally.
- **ISO22301** – 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. The ECAS has continued to manage and maintain accreditation for ISO22301 throughout 2023 and no ‘Non-Conformities’ or ‘Opportunities for Improvement’ have been raised during audits.

[4] Directive - 2019/882 - EN - EUR-Lex (europa.eu)

9 Governance

The ECAS is managed through a number of forums: the ECAS Emergency Services Forum, the ECAS Liaison Forum and the ECAS Industry Forum. Each group meets quarterly throughout the year.

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 Irish Aviation Authority, the Department of Housing, Local Government & Heritage and the ECAS. 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 Call Answering Service.

The **ECAS Liaison Forum** consists of officials from the Department and the management team of ECAS. They review 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. This Forum facilitates discussion on telecommunications issues relating to the ECAS.

Appendix 1

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.	Yes
Cleared Without Speech	A call where the caller clears the call without making a service request.	No
Silent Calls	A call which remains open without the caller speaking. These calls are triaged according to the Silent Calls procedures.	No
Repeat Silent Calls	'Silent Calls' which present to the ECAS a number of times within a given timeframe and are onward connected to AGS in line with procedures.	No
Noisy Calls	A false call which is generated on a fixed line network, which tend to be weather related. Noise on the line, no communication possible.	No
Abusive	A call from members of the public that are abusive to the ECAS Operator where no request for an Emergency Service is made.	Yes
Non-ES Help	A call where the caller makes a request for a service outside of the four named Emergency Services.	Yes
Misdials	A call where the caller indicates that they have made an error in calling the ECAS.	Yes
Customer Cancels	A call where the customer speaks and cancels the call.	Yes
Abandoned	A call that terminates before it can be presented to the next available ECAS Operator.	No