Public Safety Answering Points
Global Edition

–December 2020–

Understanding PSAPs
around the world has never
been easier

eena
EUROPEAN EMERGENCY NUMBER ASSOCIATION

2020

Abstract

Welcome message

Since 2011, EENA's annual publication "Public Safety Answering Points (PSAPs) in Europe" has become one of the most anticipated documents in the emergency services field. In order to provide readers with an even more comprehensive guide, the document evolved to a global overview and, for the first time ever, in 2016 EENA published "**PSAPs around the Globe**".

The time for the fifth global edition is finally here! Find details about PSAPs' functioning, understand the complexity of different national structures and get a clear view of the context in which PSAPs operate – **in 57 countries worldwide**!

Every year, the report adds new questions and topics to make sure the latest information on new technologies and developments is available to you. The 2020 edition includes everything covered by previous editions and adds more details in several sections and more consistent answers across the countries.

Enjoy your reading!

The EENA team

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For more information, please contact Jerome Paris at jp@eena.org.

Report information

Last updated on 16 December 2020.

Use of symbols

- "-" and "*No information provided*" are used when no answer was provided in a questionnaire response
- "*Not available*" is used when a questionnaire response indicates that the data is not available
- "*n/a*" is used when a question is not applicable

List of acronyms

A definition of all acronyms related to 112 can be found in the 112 Terminology EENA Operations Document. It is updated with the terminology used in the EENA Operations and Next Generation 112 documents.

Questions or comments? Please contact Jerome Paris at jp@eena.org.

☰ Contents

Call handling models

This section provides a short explanation of the call handling models as they are defined in the publication "Emergency call handling service chain description" and as they are used in this report.

Please note that the following models do not introduce all the PSAPs Organisation models in the world but present the major concepts with voluntarily simplified descriptions. The models do not cover the entire call handling model but rather try to highlight their major characteristics.

▉ Definitions

Emergency Response Organisation (ERO): organisation handling specific type of emergencies, e.g. the police, fire and rescue, emergency medical services, coast guard, etc.

Public Safety Answering Point (PSAP): organisation under the responsibility of a public authority or a private organisation under public mandate in charge of first reception of emergency calls.

General emergency number: phone number that citizens can use for any type of emergencies e.g. 112, 911.

ERO emergency number: a specific number for an emergency service, for example, one number for police, another number for medical emergency services and another for fire and rescue services.

General emergency number PSAP: organisation in charge of handling all types of emergency calls. Its responsibilities and tasks may differ from one country to another.

▉ Legend

Callers

Call-takers

Calling a General Emergency Number (i.e. 112, 999…)

Calling a National Emergency Response Organisation (ERO) number (i.e. 17 in France for the police)

Police Emergency Services

Fire and rescue Emergency Services

Medical Emergency Services

→ **Emergency Services Chain Flow**

- - → **Alternative Emergency Services Chain Flow**

↕ **Communication flows between Emergency Response Organisations**

Police field ressources

Fire and Rescue field ressources

Medical emergency services field ressources

Model 1: EROs handling emergency calls

General description

Many emergency numbers co-exist in the country. Emergency calls made to the general emergency number (i.e. 112 in the European Union) are redirected to one of the emergency response organisations, e.g. police, fire and rescue, or medical emergency services.

If the intervention of a different emergency response organisation is required, the call and/or data about the emergency situation are forwarded to the most appropriate ERO.

Model 1

Examples: Austria, Germany, France.

Emergency call handling chain

Calls are handled by a PSAP operated by one emergency response organisation:

1. Reception of the call by a PSAP operated by an emergency response organisation
2. Dispatch to other emergency services (e.g. a 112 call is answered by the police but the citizen needs an ambulance): the call is forwarded by the operator
3. Dispatch of the intervention resources done by the ERO operators
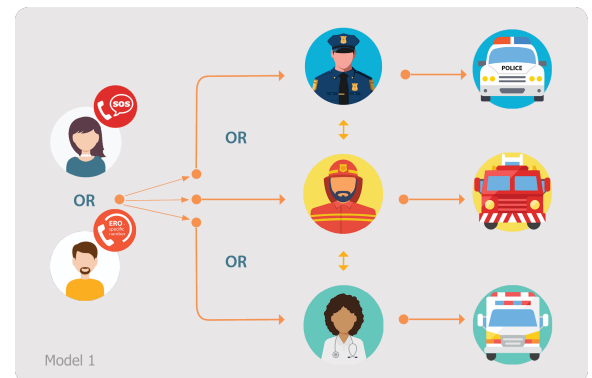
Model 2: Filtering Stage 1 PSAP and resource dispatching stage 2 PSAPs
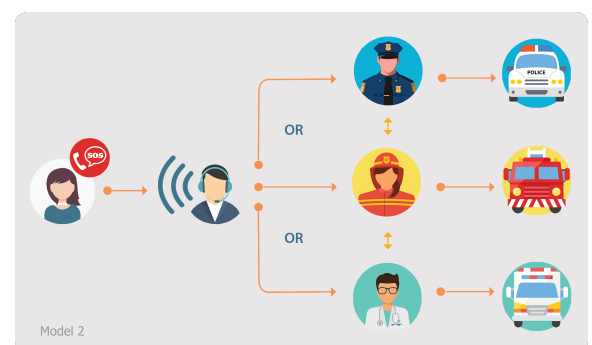
General description

Emergency call handling is organised over two levels: there is an independent organisation in charge of the first reception of the call and then the call is forwarded to the most appropriate local emergency response organisation.

Model 2

Examples: United Kingdom, Ireland

Emergency call handling chain

The general emergency number calls handled by a general emergency number PSAP:

1. General emergency number (e.g. 112, 999) calls handled by civilian operators
2. Stage 1 PSAP: Filtering tasks. The call-taker locates the caller and where the emergency is. He or she asks the caller with which emergency service he/she wants to get in contact (e.g. "What do you need? police, ambulance, fire and rescue services?"). The detailed gathering of data is not done by the stage 1 call-taker.
3. Transfer to medical / fire and rescue / police services: stage 1 PSAP forwards the call to the appropriate local emergency service
4. Detailed data gathering is done by the emergency response organisation operator
5. Dispatch of the intervention resources is ensured by the emergency response organisation

■ Model 3: Only one emergency number. Data gathering by stage 1, resource dispatching by stage 2

General description

As in the previous model, the handling of emergency calls is organised in two levels. The difference between the "Filtering Stage 1 PSAP and resource dispatching stage 2 PSAP(s)" and this model is the role played by the independent organisation. In this case, the call- taker is in charge of the classification of the call and makes a parallel dispatch to the most appropriate EROs. In some cases, police, fire and rescue and medical specialists are available to support the call takers.

Model 3

Example: Romania

Emergency calls handling chain

The general emergency number calls handled by a general emergency number PSAP:

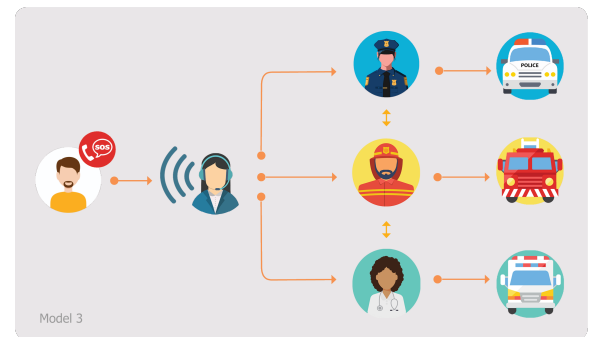1. Classification and data gathering done by the stage 1 PSAP call-taker: the operator asks what is happening and decides which EROs should be contacted depending on the information given by the caller. The operator gathers detailed data about the location and emergency situation of the caller.
2. Parallel dispatch to medical emergency / fire and rescue / police services if needed
3. Dispatch of the intervention resources done by emergency response organisation

■ Model 4: National emergency numbers routed to EROs. General emergency calls routed to civilian PSAP

General description

General emergency number (i.e. 112) co-exists with national numbers. Emergency calls made to the general number are routed to civilian PSAPs, calls to national numbers are routed to EROs.

Model 4

Example: Spain – some regions

Emergency calls handling chain

For the emergency calls made to the generalist emergency number, the emergency calls handling chain is the same as model 3.

For emergency calls made to the national specific EROs numbers, the emergency calls handling chain is the same as model 1.
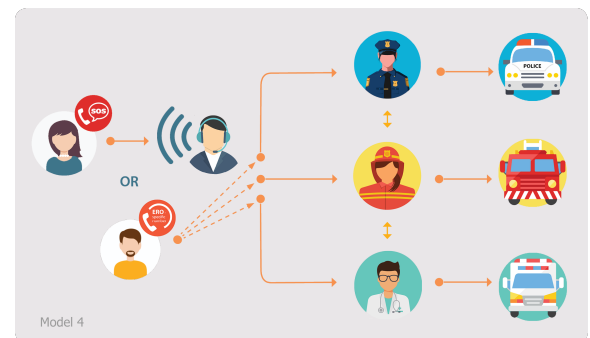
■ **Model 5: Civilian Call-Taking & Dispatching**

General description

Emergency calls made to the general emergency number (i.e. 112) are handled by civilian operators. The operators are highly trained and handle both call-taking and dispatch of intervention resources. In some cases, police, fire and rescue and medical specialists are available to support the call-takers.

Example: Finland

Model 5

Emergency call handling chain

The same PSAP is in charge of all tasks: classification of calls, data collection and dispatching the intervention resources to the incident.

Source

Emergency call handling service chain description
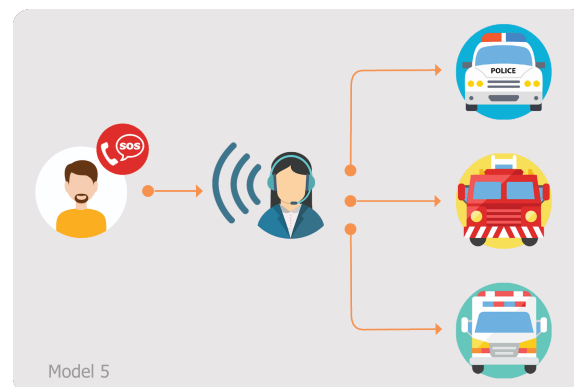
EENA knowledge hub

EENA is committed to knowledge-sharing in our effort to improve public safety and the work of emergency services. We **regularly publish documents on numerous topics about**:

- 112 General Information
- Access to 112
- AED
- Apps
- Case Studies
- Drones
- eCall
- Legislation
- Location
- NG112
- PSAP Operations
- PSAP Technology
- Public Warning
- Social Media in Emergencies

View all our **documents** and **webinars** under the knowledge hub available at the **EENA website**.

🇮🇪 Ireland

4.9 million	70k km²	2,321 K	2019
Population	Area	Calls	Year of reference

🏛 Organisation handling 112 calls

BT Ireland

⚖ National legislative / regulatory acts on 112 references

Universal service and user rights directive (EU) is the primary legislation

📖 Report applies to

- 112 Centres
- All of Ireland

Emergency call handling model

ECAS is the single stage 1 filtering PSAP service for Ireland. All Emergency calls and SMSs are routed to the ECAS which in turn connects the caller to the requested Stage2 Service, Police, Fire, Ambulance, and Coast Guard.
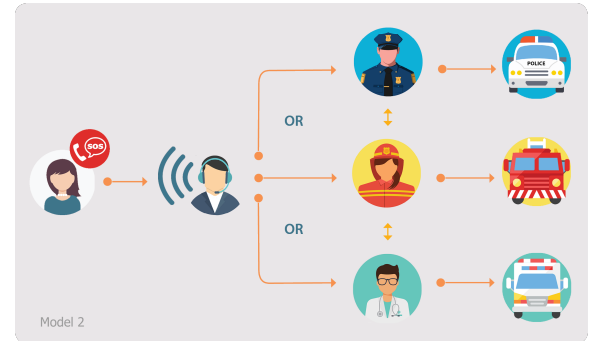
eCall implementation

Information from 2018: eCall Model 1: eCalls routed as 112 calls. The most appropriate PSAP will receive 112 calls and eCalls. Status of eCall flag implementation by MNOs is unknown and has not been agreed yet. Cooperation with TPS eCall providers.

- ✔ eCall has been implemented
- ✔ Cooperate with third-party services (TPS)
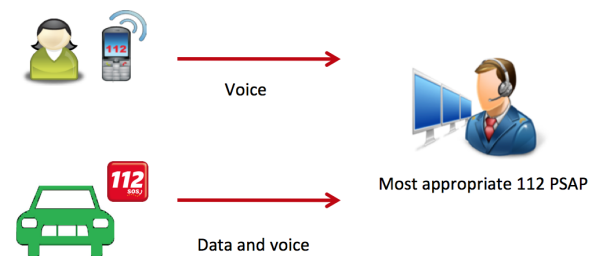
PSAPs and dispatch centres

PSAPS & DISPATCH CENTRES (DCS)			
	PSAPs	**DCs**	**Comments**
112	1	-	
FRS	-	3	
EMS	-	2	
Police	-	4	
Other	-	3	Coast Guard
Several Forces	-	0	
TOTAL	**1**	**12**	

COMMENTS

No plans in place to increase or reduce the number of PSAPs

Emergency Numbers

EMERGENCY NUMBERS ANSWERED BY PSAPS		
PSAPs	**Number**	**Comments**
112	112/999	
FRS	n/a	
EMS	n/a	
Police	n/a	
Other	n/a	
Several Forces	n/a	

Non emergency numbers

There was a helpline number set up for COVID-19 calls this year in March

Emergency calls in 2019

EMERGENCY CALLS			
	Calls	**Forwarded Calls**	**Comments**
112	2,320,970	-	
FRS	-	64,658	
EMS	-	391,803	
Police	-	461,929	
Other	-	4,852	Coast Guard
TOTAL	**2,320,970**	**923,242**	

Emergency calls per type in 2019

Mobile Telephone Networks

1,540,000

Fixed telephone networks (landlines)

780,000

Campus/private company networks

No information provided

IP networks

No information provided

⚙ Technology and equipment used in the PSAPs

→ **Do all PSAPs use the same technology in your country?**
Yes, there is only 1 112 PSAP – the ECAS.

→ **How are the PSAPs interconnected?**
Not applicable, there is only 1 112 PSAP – the ECAS. The ECAS Operates 2 centres interconnected for both voice and Data.

→ **In case of data interconnection, are these data exchanged thanks to a common network?**
Not applicable

→ **Do the interconnected PSAPs use common databases?**
Not applicable

TECHNOLOGIES AVAILABLE IN THE PSAPS	
Geographic Information System (GIS)	Available in all PSAPs
Computer Telephony Integration (CTI)	Available in all PSAPs
Computer-Aided Dispatch (CAD)	Not available
Workforce Management System	Available in all PSAPs
Business Intelligence System	Available in all PSAPs

Caller Location in support of emergency services

MOBILE CALLER LOCATION		
Type	**Time needed**	**% of calls**
Cell-ID	Instant	
Base station sector-ID	Instant	
AML	Instant	

■ **Landline caller location**

Time needed
Instant

How often are the subscriber number addresses being updated?
Daily

Advanced Mobile Location (AML)

AML DEPLOYMENT

- deployed for 112
- deployed for 999

WORKS WITH

- Android
- Apple

AML TRANSMISSION

- via SMS

ADDITIONAL FEATURES

- AML for emergency SMS

Read about Advanced Mobile Location (AML)

Apps

No Apps officially supported

Accessibility for people with disabilities

ACCESSIBILITY SERVICES			
Service	**Available to**	**Registration**[*]	**Comments**
SMS	All citizens	Yes	SMS sent to 112

[*]*Registration required*

SMS service for all citizens

- ➔ SMS service is available
- ➔ SMS sent to: 112

112 available from handsets without SIM cards?

Yes

Use of social media

■ **Virtual Operations Support Team (VOST)**

Setting up a VOST is not considered

Public warning *(Alert to citizens)*

■ **Public warning by**

→ Radio
→ TV
→ SMS to pre-registered people (alert systems operated by some local authorities)

People can sign up for email and SMS based alerts

■ **Organisation Responsible for public warning**

Multiple Local authorities, National Emergency Coordination centre

Use of RPAS *(Remotely Piloted Aircraft Systems)*

Drones are used by Emergency Services Organisations (ESOs).

Further details unknown

☆ Quality of service

Recorded calls storage period	7 years
Call handling evaluation	✔ Call handling service is evaluated *Evaluated weekly.*
Use of quality improvement systems	✔ Yes
Use of key performance indicators	✔ Yes
Use of protocols by call-takers/dispatchers	✔ Yes
Use of questions and decisions tree by call-takers/dispatchers	✔ Yes
Established processes or certifications for ensuring cybersecurity	— No information provided
Quality certification(s)	✔ ISO9001

⚑ Projects, reforms, upgrades

No information provided

■ **Upgrade towards Next Generation 112**

Considered in the future

🏭 Technology providers

Details unavailable

Annex 1: Number of PSAPs per service

		Stage 1		FRS		EMS		Police		Other		Several forces		TOTAL	
Country	Data	PSAP	DC	PSAP	DC	PSAP	DC	PSAP	DC	PSAP	DC	PSAP	DC	PSAP	DC
Ireland	2019	1	-	-	3	-	2	-	4	-	3	-	0	1	12

Annex 2: Direct emergency numbers to PSAPs

Country	Stage 1	FRS	EMS	Police	Other	Several
Ireland	112/999	n/a	n/a	n/a	n/a	n/a

Annex 3: Number of calls per service

Country	Data	Stage 1	FRS	EMS	Police	Other	TOTAL
Ireland	2019	2,320,970					**2,320,970**
	Other:: Coast Guard						

Annex 4: Number of calls per network type

Country	Data	Mobile	Fixed	Private	IP
Ireland	2019	1,540,000	780,000	-	-

Annex 5: Technologies available in the PSAPs

Country	GIS	CTI	CAD	WFMS	BIS
Ireland	All PSAPs	All PSAPs	Not available	All PSAPs	All PSAPs

Annex 6: Mobile Caller Location

Country	Cell-ID		Sector-ID		AML		HTML 5 Geolocation		App	
	Time	Calls %	Time	Calls %	Time	Calls %	Time	Calls %	Time	Calls %
Ireland	Instant		Instant		Instant					

Annex 7: Landline Caller Location

Country	Time needed	Update Frequency
Ireland	Instant	Daily

Annex 8: Advanced Mobile Location

Country	Deployed	Works with	Transmission	Features
Ireland	✓	→ Android → Apple	→ SMS	→ AML for emergency SMS

Annex 9: Apps & SMS

Country	Apps	SMS Service for all citizens
Ireland		✓ Available

Annex 10: Accessibility

Country	Fax	SMS	App	Video call	Real Time Text	Other
Ireland		✓				

Annex 11: Public Warning

Country	Sirens	Radio	TV	Cell Broadcast	LB SMS	Other
Ireland	✕	✓	✓	✕	✕	→ SMS to pre-registered people