

Advanced Mobile Location

November 2020



AML REPORT CARD

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**This report does not include Mexico and the United States where information could not be collected and the countries where the deployment of AML is still confidential.*

Foreword

Welcome to the second *AML Report Card*. This document is intended to provide you with all the information you need about how AML is deployed in each country and how it works operationally. The document is organised into 23 sections – each focusing on a country currently making use of AML.*

In addition, at the end of the document, an annex provides comprehensive tables to easily compare information between the different countries.

Through the publication of this document, EENA aims to make as much information as possible available on the possibilities and impact of implementing AML by indicating how this has been done in other countries.

The AML Report Card will be published on a yearly basis.

** This report does however not include Mexico and the United States where information could not be collected and the countries where the deployment of AML is still confidential.*

Disclaimer

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What is AML?

AML stands for Advanced Mobile Location. It is a technology that is activated when an emergency call is made from a mobile phone. AML enables handset-derived caller location information (GNSS, Wifi...) to be provided to the emergency services without prior action from the caller in distress. Many lives have already been saved in the countries where AML is already deployed.

AML is supported in smartphones that use Android or iOS operating systems (OS). However, the technology is activated by the OS providers (Google and Apple) on a country per country basis once the national authorities are technically and operationally ready to receive such information.

When deploying AML, several configurations are possible:

- The phone numbers for which AML is activated
- The transmission channel: SMS (or Data SMS), HTTPS
- The time delta to receive an SMS
- Sending of location for international roamers calling the emergency services
- Sending of location for people using SMS-to-112 (or equivalent) services

All information about AML can be found at: www.eena.org/aml.

Contact point: aml@eena.org.



Organisation providing information

2020 updates provided by EENA based on regular contacts with Notruf Niederoesterreich

AML COVERAGE IN AUSTRIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Austria?

Android iOS

When was AML deployed in Austria?

End of 2016 (during Help112 project)

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Fire & Rescue Services
- Other: Mountain Rescue, Water Rescue, HEMS

For which emergency numbers is AML activated?

122, 128, 144, 140 and 141

LEGISLATION IN AUSTRIA



What is the legislative framework in Austria to receive AML locations (rules on privacy, emergency caller location...)?

Information not provided.

END-POINT AND TRANSMISSION IN AUSTRIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Notruf Niederoesterreich

What is the time delta defined to receive AML positions?

20 sec.

Are several AML messages sent during the duration of the call?

Only one via SMS and one via HTTPS

How is the location information transmitted from the technical end-point to (other) PSAPs in Austria?

Push / Pull encrypted connections

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN AUSTRIA



Is AML also activated for roaming (Android ELS only)?

Yes

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available

Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available



Organisation providing information

Ministry of the Interior

AML COVERAGE IN BELGIUM

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Belgium?

Android iOS (Apple)

When was AML deployed in Belgium?

May 2017

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

For Android: 112, 100 (Emergency Medical Services & Fire and Rescue Services), 101 (Police). For Apple: only 112.

LEGISLATION IN BELGIUM



What is the legislative framework in Belgium to receive AML locations (rules on privacy, emergency caller location...)?

The AML service was added to the general conditions of all mobile telecom operators.

END-POINT AND TRANSMISSION IN BELGIUM

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Astrid SA/NV

Are several AML messages sent during the duration of the call?

Yes: 2 for Android; 1 for iOS

What is the time delta defined to receive AML positions?

Android: At the beginning of the call and an update after 20 seconds,
Apple: after approximately 20 seconds



How is the location information transmitted from the technical end-point to (other) PSAPs in Belgium?

Pull from the central server to the PSAP client

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN BELGIUM

Is AML also activated for roaming (Android ELS only)?

- Yes, with a short number
- Yes, with a long number (not operationally used)
- Yes, with HTTPS
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

80%

Percentage of AML messages received within 30 seconds?

100%



Percentage of AML messages received within 15 seconds?

50%

Percentage of AML messages with an accuracy below 100m.?

95%

Percentage of AML messages with an accuracy below 50m.?

95%

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER

Companies that helped in deploying AML in Belgium

Nextel

Portalify



Organisation providing information

Ministry of the Interior

AML COVERAGE IN CROATIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Croatia?

Android iOS (Apple)

When was AML deployed in Croatia?

End of 2019 (during the Help112 II project)

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Firefighters
- Other (please precise): Maritime Rescue, Roadside Assistance

Although AML is activated on the emergency numbers 193 (firefighters) and 194 (EMS), those emergency services have no endpoint for receiving AML messages at the time of writing this document.

For which emergency numbers is AML activated?

Android: 112, 192, 193, 194, 195, 1987

Apple: 112



LEGISLATION IN CROATIA

What is the legislative framework in Croatia to receive AML locations (rules on privacy, emergency caller location...)?

Law on the Electronic Communications – OG 73/08, 90/11, 133/12, 80/13, 71/14, 72/17 and Ordinance on the Single European Emergency Number 112 – OG 138/15

END-POINT AND TRANSMISSION IN CROATIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message ‘zero-rated’)?

- Yes
- No

Which organisation maintains the AML end-point?

Ministry of the Interior

Are several AML messages sent during the duration of the call?

Android: One after 10 sec, another one after 30 sec and then one every 60 sec

What is the time delta defined to receive AML positions?

Android: 10 sec, 30 sec, 60 sec



How is the location information transmitted from the technical end-point to (other) PSAPs in Croatia?

Push / Pull encrypted connections

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN CROATIA

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

77%

Percentage of AML messages received within 30 seconds?

98%



Percentage of AML messages received within 15 seconds?

90%

Percentage of AML messages with an accuracy below 100m.?

85%

Percentage of AML messages with an accuracy below 50m.?

Approximately 75%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 32%; Wifi: 59%; Cell: 7%

OTHER

Companies that helped in deploying AML in Croatia

Mobile operators: A1 Hrvatska, Hrvatski Telekom & Tele2

Croatian Regulatory Authority for Network Industries – HAKOM

Croatian IT companies: Ericsson Nikola Tesla; King ICT



Organisation providing information

Greater Copenhagen Fire Department

AML COVERAGE IN DENMARK

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Denmark?

Android iOS (Apple)

When was AML deployed in Denmark?

Android: July 22nd, 2019 - iOS: December 6th, 2019

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Firefighters

Other (please precise):

For which emergency numbers is AML activated?

112 and 911

LEGISLATION IN DENMARK



What is the legislative framework in Denmark to receive AML locations (rules on privacy, emergency caller location...)?

Udbudscirkulæret

END-POINT AND TRANSMISSION IN DENMARK

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Greater Copenhagen Fire Department

Are several AML messages sent during the duration of the call?

Yes

What is the time delta defined to receive AML positions?

60 seconds



How is the location information transmitted from the technical end-point to (other) PSAPs in Denmark?

Using an internal LIF on a private MPLS network shared by the 3 PSAPs

Are AML positions presented directly in the call-takers' GIS?

- Yes
 No

AML EVOLUTIONS IN DENMARK

Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
 Yes, with HTTPS
 No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
 No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

70,1%

Percentage of AML messages received within 30 seconds?

98,5% (iOS), 85,3% (Non-iOS)



Percentage of AML messages received within 10 seconds?

97,1% (iOS), 71,0% (Non-iOS)

Percentage of AML messages with an accuracy below 100m.?

94,6 %

Percentage of AML messages with an accuracy below 50m.?

44,2 %

Percentage of locations through GNSS/Wifi/Cell?

iOS - Percentage of locations through GNSS: 60% / Wifi: 39,8%/ Cell: 0,2%

Non-iOS - Percentage of locations through GNSS: 20,5%/ Wifi: 67,5%/ Cell: 12,0%

OTHER

Companies that helped in deploying AML in Denmark

No information provided

Estonia



Organisation providing information

2020 updates provided by EENA

AML COVERAGE IN ESTONIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Estonia?

Android iOS

When was AML deployed in Estonia?

July 2016

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Fire & Rescue Services

For which emergency numbers is AML activated?

112

LEGISLATION IN DENMARK

What is the legislative framework in Estonia to receive AML locations (rules on privacy, emergency caller location...)?

Information not provided

END-POINT AND TRANSMISSION IN ESTONIA



How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Emergency Response Centre

What is the time delta defined to receive AML positions?

20 sec.

Are several AML messages sent during the duration of the call?

No

How is the location information transmitted from the technical end-point to (other) PSAPs in Estonia?

Not applicable (PSAP is the technical end-point)

Are AML positions presented directly in the call-takers' GIS?

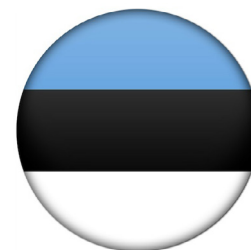
- Yes
- No

AML EVOLUTIONS IN ESTONIA

Is AML also activated for roaming (Android ELS only)?

- Yes
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?



Yes

No

Information not provided

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available

Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER

The companies that helped in deploying AML in Estonia

SMIT

Telia

Elisa

Tele2



Organisation providing information

Emergency Response Centre Agency

AML COVERAGE IN FINLAND

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Finland?

Android iOS (Apple)

When was AML deployed in Finland?

2017

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

112



LEGISLATION IN FINLAND

What is the legislative framework in Finland to receive AML locations (rules on privacy, emergency caller location...)?

The Act on Electronic Communication Services

END-POINT AND TRANSMISSION IN FINLAND

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

ERC Agency

Are several AML messages sent during the duration of the call?

Google ELS: Yes, Apple AML: no

What is the time delta defined to receive AML positions?

Google ELS: 5, 15, 25, 30 sec.. and after that every 30 seconds until the call ends, Apple AML: one position after 15-20 sec.



How is the location information transmitted from the technical end-point to (other) PSAPs in Finland?

Teleoperators deliver location information from SMSC to dedicated Alerta-service. Location information via dedicated Alerta-service to PSAPs.

Are AML positions presented directly in the call-takers' GIS?

- Yes
 No

AML EVOLUTIONS IN FINLAND

Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
 Yes, with HTTPS
 No

Solution based on short numbers being implemented.

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
 No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available (95% within 60 sec.)



Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

83%

Percentage of AML messages with an accuracy below 50m.?

72%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 26%

WiFi: 62%

Cell: 10%

No location (zero location): 2%

OTHER

Companies that helped in deploying AML in Finland

Digia

Teleoperators: Telia, Elisa and DNA

Using AML: Stories & Experiences

One of the best things is related to addresses that have foreign words in the names. We have a lot of those, because Finland is bilingual. For example, a caller can spell “Eekkeröontie” which can be in Finnish “Eckeröntie”, “Ekeröntie” or in Swedish “Eckerövägen”, “Ekerövägen”. Those roads might be in different parts of Finland, so the possibility for a big mistake exists. Now the system shows the exact location and the spelling of the road on the map, so it saves a lot of time and keeps the call-taker’s focus on the call handling.



Organisation providing information

2020 updates provided by EENA

AML COVERAGE IN FRANCE

Is AML operational in the whole country?

- Yes No (please give more details): Works in the mainland country; not activated for the Overseas territories

For which operating systems is AML working in France?

- Android iOS (Apple)

When was AML deployed in France?

6 April 2020

For which emergency services is AML working?

- Emergency Medical Services (EMS)
 Police
 Fire & Rescue Services
 Other (please precise): People with disabilities (114)

For which emergency numbers is AML activated?

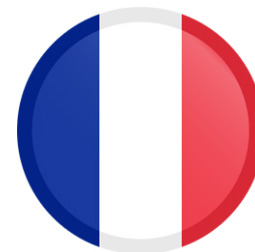
18, 112, 15, 114

LEGISLATION IN FRANCE

What is the legislative framework in France to receive AML locations (rules on privacy, emergency caller location...)?

European Electronic Communications Code Directive, 2018

END-POINT AND TRANSMISSION IN FRANCE



How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Digital Agency for Civil Security (ANSC)

What is the time delta defined to receive AML positions?

1 minute

Are several AML messages sent during the duration of the call?

Yes

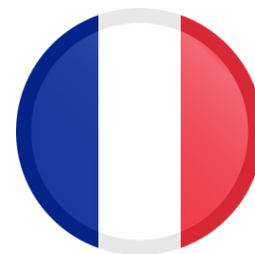
How is the location information transmitted from the technical end-point to (other) PSAPs in France?

Positions are on the cloud of the ministry and other PSAPs can connect through an API.

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN FRANCE



Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
- Yes, with HTTPS
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

52%

Percentage of AML messages received within 30 seconds?

77%

Percentage of AML messages received within 15 seconds?

66% within 20 seconds

Percentage of AML messages with an accuracy below 100m.?

91%

Percentage of AML messages with an accuracy below 50m.?

85%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 37%; Wifi: 56%; Cell: 5%



Organisation providing information

ILS Freiburg, Germany

AML COVERAGE IN GERMANY

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Germany?

Android iOS (Apple)

When was AML deployed in Germany?

October 2019

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Firefighters

Other (please precise):

For which emergency numbers is AML activated?

112



LEGISLATION IN GERMANY

What is the legislative framework in Germany to receive AML locations (rules on privacy, emergency caller location...)?

Telecommunications Act

END-POINT AND TRANSMISSION IN GERMANY

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

ILS Freiburg & Berlin Fire Brigade

Are several AML messages sent during the duration of the call?

Android: 3; iOS: 1

What is the time delta defined to receive AML positions?

First position as soon as it is available, then 15 sec and 35 sec



How is the location information transmitted from the technical end-point to (other) PSAPs in Germany?

Via an API

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN GERMANY

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

65%

Percentage of AML messages received within 30 seconds?

100%



Percentage of AML messages received within 15 seconds?

50%

Percentage of AML messages with an accuracy below 100m.?

90%

Percentage of AML messages with an accuracy below 50m.?

75%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 49%

WiFi: 48%

Cell: 3%

OTHER

Companies that helped in deploying AML in Germany

Deutsche Telekom

Vodafone

Telefonica

Using AML: Stories & Experiences

The most success is in the daily work when you can get or verify the location with ELS much faster than before.



Organisation providing information

General Secretariat for Civil Protection, Greece

AML COVERAGE IN GREECE

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Greece?

Android OS (Apple)

When was AML deployed in Greece?

2020

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Firefighters
- Other (please precise): Hellenic Coast Guard

For which emergency numbers is AML activated?

112



LEGISLATION IN GREECE

What is the legislative framework in Greece to receive AML locations (rules on privacy, emergency caller location...)?

- Act 4662/2020 “National Crisis & Hazard Management Mechanism, Restructuring of the General Secretariat for Civil Protection, Upgrade of Civil Protection Volunteering, Restructuring of the Fire Corps and other policies” (National Register Vol. A, Iss. 27).
- Act 4727/2020 “Digital Governance (Transposition of Directive 2016/2012 (EU) and of Directive 2019/1024 (EU) to Greek Legislation) – Electronic Communications (Transposition of Directive 2018/1972 (EU) to Greek Legislation) and other policies” (National Register Vol. A, Iss. 184).

END-POINT AND TRANSMISSION IN GREECE

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message ‘zero-rated’)?

- Yes
- No

Which organisation maintains the AML end-point?

General Secretariat for Civil Protection, Greece

Are several AML messages sent during the duration of the call?

Yes (Android)

What is the time delta defined to receive AML positions?

Android: 25 and 60 seconds



How is the location information transmitted from the technical end-point to (other) PSAPs in Greece?

Via the 112 CAD application

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN GREECE

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available



Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER

Companies that helped in deploying AML in Greece

Information not provided

Using AML: Stories & Experiences

Information not provided



Organisation providing information

NISZ (National Infocommunications Service Company)

AML COVERAGE IN HUNGARY

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Hungary?

Android OS (Apple)

When was AML deployed in Hungary?

Android: February 18, 2020, IOS: March 24, 2020

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Firefighters

Other (please precise):

For which emergency numbers is AML activated?

112



LEGISLATION IN HUNGARY

What is the legislative framework in Hungary to receive AML locations (rules on privacy, emergency caller location...)?

Generally: Act C of 2003 on electronic communications
In detail: National Media and Infocommunications Authority decree No. 3/2012.

END-POINT AND TRANSMISSION IN HUNGARY

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Hungarian National Police Headquarters

Are several AML messages sent during the duration of the call?

Yes

What is the time delta defined to receive AML positions?

30 seconds



How is the location information transmitted from the technical end-point to (other) PSAPs in Hungary?

Via web service

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN HUNGARY

Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
- Yes, with HTTPS
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

No information available

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

34%

Percentage of AML messages received within 30 seconds?

94%



Percentage of AML messages received within 15 seconds?

87%

Percentage of AML messages with an accuracy below 100m.?

77%

Percentage of AML messages with an accuracy below 50m.?

63%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 29%; Wifi: 61%; Cell= 6%; No location: 3%

OTHER

Companies that helped in deploying AML in Hungary

NISZ (National Infocommunications Service Company Limited by Shares)

Using AML: Stories & Experiences

Information not available



AML COVERAGE IN ICELAND

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Iceland?

Android iOS (Apple)

When was AML deployed in Iceland?

Android: January 2017; Apple: April 2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

112

LEGISLATION IN ICELAND

What is the legislative framework in Iceland to receive AML locations (rules on privacy, emergency caller location...)?

No specific rules, just general that a caller to emergency services is obligated to reveal their location and deception is punishable by law. A little technical aid is not considered a violation of anything.

END-POINT AND TRANSMISSION IN ICELAND



How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

112 Iceland

Are several AML messages sent during the duration of the call?

Yes, 2.

What is the time delta defined to receive AML positions?

One after 0 sec. and another after 20 sec.

How is the location information transmitted from the technical end-point to (other) PSAPs in Iceland?

Not applicable (PSAP is the technical end-point)

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No



AML EVOLUTIONS IN ICELAND

Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
- Yes, with HTTPS
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

The general notion is that AML arrives with most domestic cell phone calls.

Percentage of AML messages received within 30 seconds?

Not available

Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available



Companies that helped in deploying AML in Iceland

The operators: Siminn, Vodafone and Nova
Samsyn (software development)

Using AML: Stories & Experiences

A couple was driving in the West fjords. The passenger (the woman) falls asleep and wakes up when her husband drives the car off the road in an epileptic seizure. She had no idea how far along they were and it had fallen totally dark. They could have been anywhere along close to 100 km of the road, passing through 2 counties and over 2 mountain passes. ELS gave their exact location. (Of course the cell ID did reduce the drama somewhat, but still left open more than 40 km of road).



Organisation providing information

2020 updates provided by EENA

AML COVERAGE IN IRELAND

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Ireland?

Android iOS

When was AML deployed in Ireland?

Summer 2017

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Fire & Rescue Services
- Other: Coastguard

For which emergency numbers is AML activated?

112, 999

LEGISLATION IN IRELAND

What is the legislative framework in Ireland to receive AML locations (rules on privacy, emergency caller location...)?

Permitted under Data Protection legislation

END-POINT AND TRANSMISSION IN IRELAND



How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Emergency Call Answering Service (ECAS)

What is the time delta defined to receive AML positions?

No criteria has been defined, however AML messages are typically received in between 8 and 10 seconds from the start of the emergency call.

Are several AML messages sent during the duration of the call?

Yes. Android: 4, Apple: 1

How is the location information transmitted from the technical end-point to (other) PSAPs in Ireland?

XML and HTTP interface

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN IRELAND



Is AML also activated for roaming (Android ELS only)?

Yes

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

Information not provided

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available

Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER



Companies that helped in deploying AML in Ireland

Volt Delta International

Púca



Organisation providing information

Information Center of the Ministry of the Interior

AML COVERAGE IN LATVIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Latvia?

Android iOS

When was AML deployed in Latvia?

16 October 2020

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Fire & Rescue Services
- Other (please precise): Maritime Rescue Coordination Centre

For which emergency numbers is AML activated?

Android: 110, 112, 113, 114, 115

iOS: 112

LEGISLATION IN LATVIA



What is the legislative framework in Latvia to receive AML locations (rules on privacy, emergency caller location...)?

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data

END-POINT AND TRANSMISSION IN LATVIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

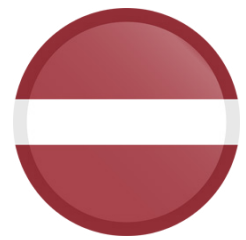
Information Center of the Ministry of the Interior

What is the time delta defined to receive AML positions?

Android : 20 sec, 20 sec, 20 sec, 60 sec, 60 sec, 60 sec...

Are several AML messages sent during the duration of the call?

Only in Android devices



How is the location information transmitted from the technical end-point to (other) PSAPs in Latvia?

A single database is available to everyone PSAPs

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN LATVIA

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

98%

Percentage of AML messages received within 15 seconds?

97%



Percentage of AML messages with an accuracy below 100m.?

61%

Percentage of AML messages with an accuracy below 50m.?

19%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 33%

WiFi: 55%

Cell-ID: 9%

OTHER

List the companies that helped in deploying AML in Latvia

- Latvijas mobilais telefons
- Bite
- Tele2
- TET
- CSC Telecom

Using AML: Stories & Experiences

Information not provided



Organisation providing information

Emergency Response Centre (ERC)

AML COVERAGE IN LITHUANIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Lithuania?

Android iOS

When was AML deployed in country Lithuania?

Android ELS: November 2016, Apple iOS AML: April 2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

Alongside with number 112, Android ELS supports the old national emergency numbers for police and fire (101, 011, 102, 022). Apple iOS AML only supports the emergency number 112.

LEGISLATION IN LITHUANIA



What is the legislative framework in Lithuania to receive AML locations (rules on privacy, emergency caller location...)?

Law on Emergency Response Center, law on electronic communications

END-POINT AND TRANSMISSION IN LITHUANIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Emergency Response Centre

What is the time delta defined to receive AML positions?

Android ELS: 30 sec., Apple iOS AML - not known, no time delta customisations available per country.

Are several AML messages sent during the duration of the call?

No



How is the location information transmitted from the technical end-point to (other) PSAPs in Lithuania?

AML data from the technical end-point is written to location DB and is made available to PSAPs via secure data network

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN LITHUANIA

Is AML also activated for roaming (Android ELS only)?

Yes

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

53,6%

Percentage of AML messages received within 30 seconds?

60,5%

Percentage of AML messages received within 15 seconds?

16%



Percentage of AML messages with an accuracy below 100m.?

80,6%

Percentage of AML messages with an accuracy below 50m.?

NA

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 39,4%

WiFi: 43%

Cell-ID: 4%

OTHER

List the companies that helped in deploying AML in Lithuania

Innoseven Technologies (www.innoseven.lt)

Using AML: Stories & Experiences

The situation occurred on 2019-09-15 in a forest in southern Lithuania. Family with two kids (9 and 4 years) turned off the road for mushroom hunting and got lost. They didn't know name of the forest, nor they could provide any landmarks or references. MNO location data returned big circle (donut shape) with a strip of almost 10 km wide. AML returned 6 meters GPS based location and family was quickly found (~30 minutes from the call). With such a MNO coverage it might have taken hours to find them, helicopter might have been needed.

However there was no danger to their life and health, just fright of the lost.

AML allows us to locate and provide help to those in life threatening situation in minutes instead of hours.



Organisation providing information

Public Institution “National Single Service for Emergency Number 112”

AML COVERAGE IN MOLDOVA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Moldova?

Android iOS (Apple)

When was AML deployed in Moldova?

15 October 2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

112, 901, 902, 903

LEGISLATION IN MOLDOVA



What is the legislative framework in Moldova to receive AML locations (rules on privacy, emergency caller location...)?

- Law no. 174 of 25.07.2014 on the organisation and functioning of the National Single Service for Emergency Number 112;
- Decision on the approval of the technical, legal and organisational economic conditions concerning the accomplishment of electronic communications to / from the 112 service;
- Decision on the approval of the Technical Conditions for the transmission of information primary location for calls to the 112 emergency number and accessing the 112 Service to subscriber databases providers of electronic communications services;
- Decision on approval of Procedures and Technical Limits for Reducing Abusive Despatch, False alert and Involuntary Calls to the 112 Service.

END-POINT AND TRANSMISSION IN MOLDOVA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No



Which organisation maintains the AML end-point?

Public Institution “National Single Service for Emergency Number 112”
Republic of Moldova

Are several AML messages sent during the duration of the call?

Yes

What is the time delta defined to receive AML positions?

One after 10 sec., another one after 30 sec. and then one every 60 sec.

How is the location information transmitted from the technical end-point to (other) PSAPs in Moldova?

Intergrated in the GIS application

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN MOLDOVA

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES



Average percentage of calls from a mobile phone where an AML position is received?

40%

Percentage of AML messages received within 30 seconds?

53%

Percentage of AML messages received within 15 seconds?

31%

Percentage of AML messages with an accuracy below 100m.?

80%

Percentage of AML messages with an accuracy below 50m.?

72%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 27%

Wifi: 56%

Cell: 17%

OTHER

Companies that helped in deploying AML in Moldova

Ericsson

Carmenta

MoldTelecom

Orange

Moldcell



Using AML: Stories & Experiences

A boy with a mental illness got lost in the forest as he was picking mushrooms. The 112 call taker had the outstanding ability to calm down the victim and, thanks to AML, to guide him to the road where a rescue team and an ambulance were waiting to help him.

The screenshot displays the AML interface. On the left, a map shows a residential area with a yellow arrow pointing to a location marked '112 | 112'. The map includes labels for 'Mihail Sadoveanu', 'Bulevardul Mircea cel Bătrîn', 'Ciocana', and 'Strada Igor Vieru'. On the right, a sidebar contains the following information:

- Case:** 112
- Information:**
 - Type: 112
 - Descr: 112
 - Status: Publicat
 - Priority:
- Location:**
 - Position: 47° 03.162' N, 029° 53.318' E
 - 2020-03-27 10:59:45
- Mobile Positions:**
 - ☑ Show on Map Center
 - +372 2020-03-27 11:51:56 Circle with radius 35 m
 - ☑ Secondary Mobile Positions
 - ☐ Show on Map
 - +372 2020-03-27 11:51:51 Circle with radius 35 m
 - +372 2020-03-27 11:50:25 Circle with radius 25 m
- Address:** Mircea cel Bătrîn
- City/Place:** Ciopîmbu
- City:** Ciocana
- Area:**
- Search Position from Address:**
- Destination Location:**
 - Position: 47° 03.162' N, 029° 53.318' E
 - 2020-03-27 10:59:44
 - Address:

The Netherlands



Organisation providing information

Police (Dutch joint operation center)

AML COVERAGE IN THE NETHERLANDS

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in The Netherlands?

Android iOS (Apple)

When was AML deployed in The Netherlands?

March 2019

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

112

LEGISLATION IN THE NETHERLANDS



What is the legislative framework in The Netherlands to receive AML locations (rules on privacy, emergency caller location...)?

Telecommunications law. The Government informs the citizens of The Netherlands about AML on the regular websites about 112

END-POINT AND TRANSMISSION IN THE NETHERLANDS

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Police

Are several AML messages sent during the duration of the call?

Android: Yes; iOS: No

What is the time delta defined to receive AML positions?

Android: First location, 20 seconds and then every 60 seconds

How is the location information transmitted from the technical end-point to (other) PSAPs in The Netherlands?

A webservice connects the AML information to the call in the PSAPs



Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN THE NETHERLANDS

Is AML also activated for roaming (Android ELS only)?

Yes, with long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Approximately 90%

Percentage of AML messages received within 30 seconds?

No information available

Percentage of AML messages received within 15 seconds?

No information available



Percentage of AML messages with an accuracy below 100m.?

Approximately 90%

Percentage of AML messages with an accuracy below 50m.?

Approximately 80%

Percentage of locations through GNSS/Wifi/Cell?

Approximately:

GNSS:39%

Wifi: 54%

Cell: 5%

OTHER

Companies that helped in deploying AML in The Netherlands

MNO's and MVNO's

New Zealand



Organisation providing information

Ministry of Business, Innovation & Employment

AML COVERAGE IN NEW ZEALAND

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in New Zealand?

Android iOS (Apple)

When was AML deployed in country New Zealand?

May 2017

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

111, 000, 112, 999, 911, 117 - both for voice calls and SMS (text to 111)

LEGISLATION IN NEW ZEALAND



What is the legislative framework in New Zealand to receive AML locations (rules on privacy, emergency caller location...)?

Specific amendment (No. 5) to the Telecommunications Information Privacy Code 2003. A code is a regulatory instrument under the NZ Privacy Act 1993. The Code sets out the conditions of collection, use, retention and disposal of personal information relating to emergency caller location data, and specifically authorises the collection of this data with the consent of the emergency caller.

END-POINT AND TRANSMISSION IN NEW ZEALAND

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Ministry of Business, Innovation & Employment

What is the time delta defined to receive AML positions?

25 sec.



Are several AML messages sent during the duration of the call?

Yes, for Android only

How is the location information transmitted from the technical end-point to (other) PSAPs in New Zealand?

Emergency call-takers access the end-point - a repository of location records - either via a web page or through a web-service API directly within the Computer Aided Dispatch (CAD) system.

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN NEW ZEALAND

Is AML also activated for roaming (Android ELS only)?

- Yes
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

FIGURES



Average percentage of calls from a mobile phone where an AML position is received?

80,22% of all genuine emergency calls

Percentage of AML messages received within 30 seconds?

96.85% (Android: 95.59%, iOS: 98.86%)

Percentage of AML messages received within 15 seconds?

14.55% (Android: 1.05%. iOS: 36.23%) - noting that the time delta is 25seconds

Percentage of AML messages with an accuracy below 100m.?

84.15% (Android: 78.92%, iOS: 92.56%)

Percentage of AML messages with an accuracy below 50m.?

72.12% (Android: 80,61%; iOS: 64,81%)

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 46,55%

Wifi: 45,84%

Cell: 2,64%

No location: 4,97%

OTHER

List the companies that helped in deploying AML in New Zealand

Mobile Network Operators (2degrees, Spark and Vodafone)

Datacom

Office of the Privacy Commission



Organisation providing information

Nkom & Helsedir

AML COVERAGE IN NORWAY

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Norway?

Android iOS (Apple)

When was AML deployed in country Norway?

2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

For which emergency numbers is AML activated?

110, 112, 113, 1412



LEGISLATION IN NORWAY

What is the legislative framework in Norway to receive AML locations (rules on privacy, emergency caller location...)?

Ecom regulations § 6-2a: operators shall transfer information on mobile phones location with accuracy as high as possible, but within 50 meter accuracy for at least 80 percent of the emergency calls. Operators can choose their own solutions or a operative system solution.

END-POINT AND TRANSMISSION IN NORWAY

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Nasjonal Referansedatabase NRDB (the portability database)

What is the time delta defined to receive AML positions?

Android: One after 10 sec., another one after 30 sec, and then every 60 sec.
iOS: one, as far as we know. Unknown time.

Are several AML messages sent during the duration of the call?

Android: Yes. iOS: No. Just 1 as far as we know.



How is the location information transmitted from the technical end-point to (other) PSAPs in Norway?

Through NRDB interface.

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN NORWAY

Is AML also activated for roaming (Android ELS only)?

Yes

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

Note: It is enabled in the phones and in the AML end point, but is not yet displayed in the call takers GIS.

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

70%

Percentage of AML messages received within 30 seconds?

Not available



Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER

List the companies that helped in deploying AML in Norway

NRDB - Nasjonal Referansedatabase

Telia

Telenor

Ice

Locus

National Health Directorate (Hdir)

The Norwegian Directorate for Civil Protection (DSB)

National Police Directorate (POD)



Organisation providing information

Special Telecommunications Service, Romania

AML COVERAGE IN ROMANIA

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Romania?

Android iOS (Apple)

When was AML deployed in Romania?

17th of March 2020 - ELS available nation-wide, 27th of March 2020 - Apple AML available nation-wide

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

Other (please precise):

1st stage PSAP, Gendarmerie, SPP (Protection and Guard Service), Counter-terrorism, TMC (Traffic Management Center under National Company of Motorways and National Roads in Romania), ROMATSA (Romanian Air Traffic Services Administration), AFER (Romanian Railway Authority), Minister of National Defense, Labor Protection.

For which emergency numbers is AML activated?

112, 113

LEGISLATION IN ROMANIA



What is the legislative framework in Romania to receive AML locations (rules on privacy, emergency caller location...)?

O.U.G. no. 34/2008 regarding the organization and functioning of the National System for Emergency Calls, with the subsequent amendments and completions.

Decision of the president of the National Authority for Communications no. 1023/2008 on establishing communications to the National Unique System for Emergency Calls, with the subsequent amendments and completions.

END-POINT AND TRANSMISSION IN ROMANIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Special Telecommunications Service

Are several AML messages sent during the duration of the call?

Multiple messages for Android ELS, One single message for Apple AML

What is the time delta defined to receive AML positions?

Android ELS: First Fix, 15 sec, 34 sec, every 60 sec. Apple AML: First Fix



How is the location information transmitted from the technical end-point to (other) PSAPs in Romania?

All AML location information is stored in a centralized database and is used to provide Location responses to all request sent by stage 1 and stage 2 PSAP clients, using the MLP Protocol

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN ROMANIA

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

38,98%

Percentage of AML messages received within 30 seconds?

HTTPS: 97%; SMS: 89%



Percentage of AML messages received within 15 seconds?

HTTPS: 92%; SMS: 80%

Percentage of AML messages with an accuracy below 100m.?

HTTPS: 86,68%; SMS: 81,04%

Percentage of AML messages with an accuracy below 50m.?

HTTPS: 79%; SMS: 76%

Percentage of locations through GNSS/Wifi/Cell?

HTTPS: 65% Wifi; 26% GNSS; 8% Cell; 1% N/A / SMS: 58% Wifi; 28% GNSS; 11% Cell; 3% N/A

OTHER

Companies that helped in deploying AML in Romania

Telekom Romania Communications
Orange Romania
Vodafone Romania
RDS&RCS Digi Mobile Romania
Google LLC
Apple Inc

Using AML: Stories & Experiences

Story#1 Bucharest

A woman dials 112, crying and claiming that she has been assaulted by her husband. The 112 call-taker asks for her location, however the caller is only able to state that she's in Bucharest before she becomes unresponsive and the call ends abruptly. The Police Department requests calling back the woman who may be in danger, yet there is no answer. Thanks to the AML positioning, the Police is able to send a unit, locate the woman quickly and settle down the conflict, the woman not needing any medical intervention.

(to be continued on the next page)



Using AML: Stories & Experiences

Story#2 Giurgiu County

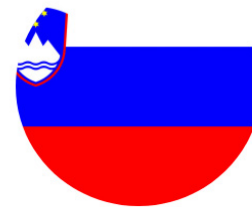
A 60-year old male dials 112 to announce that he intends to end his life and that he had already harmed himself. He did not want to disclose his exact location, only confession that he is in a certain village, before stopping communicating with the call-taker after approximately 3 minutes. Luckily, the PSAP received AML information, the police dispatching a unit in the area specified by AML, finding the man alive, who is then taken to the hospital for medical aid.

Story#3 Buzau County

Two people got lost in the forest. The AML coordinates which had arrived along with the emergency call significantly reduced the search area. While the network-based Cell ID/Sector ID indicated an area of 25 square kilometers, the AML location was much more precise: 113 square meters calculated in the first few AML messages, consequently leading to the victims being found much more quickly.

Story#4 Cluj County

A person fell off a mountain-cliff in a remote area, getting injured. The victim dialled 112, automatically sending AML coordinates to the PSAP. Consequently, authorities were able to reach the victim with the helicopter in time, saving him and providing medical aid.



Organisation providing information

Ministry of Defence, Administration for Civil Protection and Disaster Relief

AML COVERAGE IN SLOVENIA

Is AML operational in the whole country?

Yes No

Note: AML currently working for three of four mobile operators.

For which operating systems is AML working in Slovenia?

Android iOS (Apple)

Note: AML on iOS should be enabled for two carriers (Telekom Slovenija and A1) this spring.

When was AML deployed in Slovenia?

Google: 20th April 2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

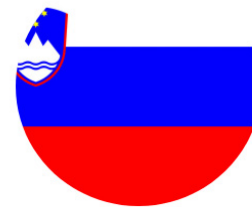
Fire & Rescue Services

Note: All emergency services are available in an emergency event with a call to 112. Police have a different number but in emergency cases we redirect just the voice call.

For which emergency numbers is AML activated?

112, 911

LEGISLATION IN SLOVENIA



What is the legislative framework in Slovenia to receive AML locations (rules on privacy, emergency caller location...)?

Operators must send call and caller location to 112.

END-POINT AND TRANSMISSION IN SLOVENIA

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Ministry of Defence, Administration for Civil Protection and Disaster Relief

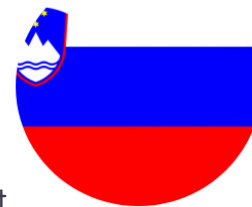
Are several AML messages sent during the duration of the call?

During the duration of the call, in most cases we get one or two AML messages.

What is the time delta defined to receive AML positions?

One after 0 sec. and another one after 25 sec.

How is the location information transmitted from the technical end-point to (other) PSAPs in Slovenia?



Each SMS has an ID code which determinates the region of the SMS sent. The data from the SMS is then sent to the specific region over a private network.

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN SLOVENIA

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

20.72% of all 344,929 mobile calls from January 1st, 2019, to December 31st, 2019

Percentage of AML messages received within 30 seconds?

39.38%

Percentage of AML messages received within 15 seconds?

49.10%



Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available

OTHER

Companies that helped in deploying AML in Slovenia

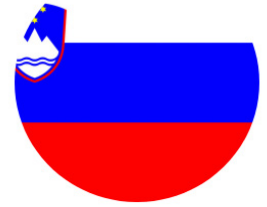
Ipkom, d.o.o.

Using AML: Stories & Experiences

“AML is an impressive and very useful service” was one of the first comments about AML from one of our operators in PSAP. They cross by many different stories daily, but let’s say this one stands out a little. We received a partial eCall. It was only a verbal eCall with the coordinates of a car crash and the name of a car brand. Information about location was not correct. A few seconds later, we received a very precise AML location. After eCall finished the verbal part, the operator tried to establish communication with the person in the car. He was successful, but only after two long minutes. In the meantime, the operator activated all the necessary rescue services. The location was really important in this case, since the accident happened on railway tracks, which means this story could have had a different ending. Luckily, it’s a story about a successful combination of AML and eCall.

(To be continued on the next page.)

Using AML: Stories & Experiences



“There are many successful stories about AML,” responded an operator from a local PSAP when I asked him about his experience of AML, since he uses it daily. Among them is a story about a lost mountaineer, who was hiking around Pokljuka. This is mainly a wooded area in the Julian Alps with an altitude of up to 1536 metres. It also has many kilometres of Macadam roads. One day, we received a call from a desperate mountaineer on our emergency number. It was already late in the afternoon when he called, saying he was lost. The temperature was really low: close to freezing. He also claimed his sight was impaired which caused very poor vision, especially at night. The operator in the PSAP received the first AML location, but since it wasn't accurate enough, it was useless. Soon, he received the second AML location. This time the operator could define the mountaineer's location and it was very precise. The operator shared this location with mountain rescuers, who were activated immediately. With the help of the operator in the PSAP, the AML feature, the GIS system and the mountain rescuers, the lost caller was found in short period of time and was able to return home without any consequences.



Organisation providing information

SOS Alarm, Sweden

AML COVERAGE IN SWEDEN

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in Sweden?

Android iOS (Apple)

When was AML deployed in Sweden?

October 2019

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Fire & Rescue Services
- Other (please precise): Sea/Air rescue (JRCC)

AML is working for PSAP stage 1 (SOS Alarm) and the stage 2 PSAP where SOS Alarm is handling dispatching (18 out of 21 Regions concerning EMS and most of FRS) or where the FRS are using SOS Alarms CAD system. Also working for stage 2 PSAP Sea/Air rescue (JRCC) since June 2020, to which SOS Alarm can transfer the AML location. Ongoing work with integrating possibility to share info automatically with the Police, calculated to be implemented during 2021.

For which emergency numbers is AML activated?

Single emergency number 112

LEGISLATION IN SWEDEN



What is the legislative framework in Sweden to receive AML locations (rules on privacy, emergency caller location...)?

Law on Electronic Communications (Lag 2003:389 om Elektronisk Kommunikation)

END-POINT AND TRANSMISSION IN SWEDEN

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

SOS Alarm

Are several AML messages sent during the duration of the call?

Android: 2; iOS: 1

What is the time delta defined to receive AML positions?

Currently 5 and 25 sec (Android). Default (20 secs) iOS



How is the location information transmitted from the technical end-point to (other) PSAPs in Sweden?

Within SOS Alarms CAD system.

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN SWEDEN

Is AML also activated for roaming (Android ELS only)?

Yes, with a long number

Yes, with HTTPS

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

50%

Percentage of AML messages received within 30 seconds?

97,5%



Percentage of AML messages received within 15 seconds?

97,2%

Percentage of AML messages with an accuracy below 100m.?

92%

Percentage of AML messages with an accuracy below 50m.?

64%

Percentage of locations through GNSS/Wifi/Cell?

Android – GNSS: 47%; Wifi: 51%; Cell: 2%; iOS – GNSS: 60%; Wifi: 40%

OTHER

Companies that helped in deploying AML in Sweden

Google, Apple, Telia, Tele2, Tre, Telenor

Using AML: Stories & Experiences

No information provided

United Arab Emirates (UAE)



Organisation providing information

Dubai Police HQ

AML COVERAGE IN UAE

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in UAE?

Android iOS (Apple)

Note: IOS still testing

When was AML deployed in UAE?

Oct-2017 (Android), Sept-2019 (iOS)

For which emergency services is AML working?

- Emergency Medical Services (EMS)
- Police
- Firefighters
- Other (please precise): 996 for Coastguard (Android)

For which emergency numbers is AML activated?

112, 911, 999 for Police - (Android & iOS)
998 for Ambulance - (Android)
997 for Fire Department (Civil Defence) - (Android)
996 for Coastguard - (Android)



LEGISLATION IN UAE

What is the legislative framework in UAE to receive AML locations (rules on privacy, emergency caller location...)?

Legislation on emergency caller location

END-POINT AND TRANSMISSION IN UAE

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Which organisation maintains the AML end-point?

Dubai Police HQ

What is the time delta defined to receive AML positions?

10 seconds, 30 seconds (Android)

Are several AML messages sent during the duration of the call?

2 message from Android, 1 from iOS



How is the location information transmitted from the technical end-point to (other) PSAPs in UAE?

Web service is published to integrate with all the PSAP.

Are AML positions presented directly in the call-takers' GIS?

- Yes
- No

AML EVOLUTIONS IN UAE

Is AML also activated for roaming (Android ELS only)?

- Yes, with a long number
- Yes, with HTTPS
- No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

- Yes
- No

FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

Not available

Percentage of AML messages received within 30 seconds?

Not available



Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

Not available

Percentage of AML messages with an accuracy below 50m.?

Not available

Percentage of locations through GNSS/Wifi/Cell?

Not available



Organisation providing information

BT Stage 1 PSAP (BT, plc)

AML COVERAGE IN THE UK

Is AML operational in the whole country?

Yes No

For which operating systems is AML working in the UK?

Android iOS (Apple)

When was AML deployed in the UK?

2014 for a small number of handsets (HTC)

Android: June 2016, Apple: April 2018

For which emergency services is AML working?

Emergency Medical Services (EMS)

Police

Fire & Rescue Services

Other: Coastguard

Note: Most Ambulance, Fire Services and Coastguards use AML from Stage 1 PSAP, but only about 60% of Police Forces at present. Coastguard uses AML.



For which emergency numbers is AML activated?

112, 999

LEGISLATION IN THE UK

What is the legislative framework in the UK to receive AML locations (rules on privacy, emergency caller location...)?

Ofcom general conditions

Privacy and Electronic Communications Regulations 2003 (SI 2003/2426)

END-POINT AND TRANSMISSION IN THE UK

How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

Note: SMS to a long number for overseas roamers on Android handsets

Is the transmission of the AML message free to the caller (message 'zero-rated')?

- Yes
- No

Note: Yes for SMS to short numbers, No for SMS to long numbers

Which organisation maintains the AML end-point?

BT Stage 1 PSAP



Are several AML messages sent during the duration of the call?

No, only one message sent at start of the call.

What is the time delta defined to receive AML positions?

15-20 sec. is the time delay at handset to establish a location. Stage 1 PSAP answers voice calls within 1 second (on average) with average time to receive AML after voice answered being 16 seconds.

How is the location information transmitted from the technical end-point to (other) PSAPs in the UK?

Stage 1 PSAP uses a location hub where AML information is temporarily stored for Stage 2 PSAPs to access (using MSISDN) on an existing interface for all 999 location (using private data network connections).

Are AML positions presented directly in the call-takers' GIS?

Yes

No

AML EVOLUTIONS IN THE UK

Is AML also activated for roaming (Android ELS only)?

Yes

No

Is AML also working for SMS-to-112 or equivalent (Android ELS only)?

Yes

No



FIGURES

Average percentage of calls from a mobile phone where an AML position is received?

75%

Percentage of AML messages received within 30 seconds?

97% received within 20 seconds

Percentage of AML messages received within 15 seconds?

Not available

Percentage of AML messages with an accuracy below 100m.?

97% (omitting any results with no location)

Percentage of AML messages with an accuracy below 50m.?

70%

Percentage of locations through GNSS/Wifi/Cell?

GNSS: 48%

Wifi: 40%

Cell: 5%

No location: 7%

OTHER

Companies that helped in deploying AML in the UK

EE

HTC

Vodafone

Three

O2

CLX (SMS Aggregation Service)

Annex 1 : Tables

AVAILABILITY OF AML

	Android	Apple
Austria	X	
Belgium	X	X
Croatia	X	X
Denmark	X	X
Estonia	X	X
Finland	X	X
France	X	X
Germany	X	X
Greece	X	X
Hungary	X	X
Iceland	X	X
Ireland	X	X
Latvia	X	X
Lithuania	X	X
Moldova	X	X
Netherlands	X	X
New Zealand	X	X
Norway	X	X
Romania	X	X
Slovenia	X	X
Sweden	X	X
United Arab Emirates	X	X
United Kingdom	X	X

OPERATIONAL USE OF AML

	EMS	FRS	Police	Others	Emergency numbers
Austria	X	X		Mountain Rescue, Water Rescue, HEMS	122, 128, 140, 141, 144
Belgium	X	X	X		Android: 100, 101, 112; iOS: 112
Croatia			X	Maritime Rescue, Roadside assistance	Android: 112, 192, 193, 194, 195, 1987; iOS: 112
Denmark	X	X	X		112, 911
Estonia	X	X	X		112
Finland	X	X	X		112
France	X	X		People with disabilities (114)	15, 18, 112, 114
Germany	X	X			112
Greece	X	X	X	Hellenic Coast Guard	112
Hungary	X	X	X		112
Iceland	X	X	X		112
Ireland	X	X	X		112, 999
Latvia	X	X	X	Maritime Rescue Coordination Centre	Android: 110, 112, 113, 114, 115; iOS: 112
Lithuania	X	X	X		Android: 101, 101, 011, 102, 022, iOS: 112
Moldova	X	X	X		Android: 112, 901, 902, 903; iOS: 112
Netherlands	X	X	X		112
New Zealand	X	X	X		111, 000, 112, 999, 911, 117
Norway	X	X	X		110, 112, 113, 1412
Romania	X	X	X	1st stage PSAP, Gendarmerie, SPP (Protection and Guard Service), Counter-terrorism, TMC (Traffic Management Center under National Company of Motorways and National Roads in Romania), ROMATSA (Romanian Air Traffic Services Administration), AFER (Romanian Railway Authority), Minister of National Defense, Labor Protection.	112, 113
Slovenia	X	X	X		112, 991
Sweden	X	X		air/sea rescue	112
United Arab Emirates	X	X	X	Coastguard	112, 911, 999, 998 (Android only), 997 (Android only), 996 (Android only)
United Kingdom	X	X	X	Coastguard	112, 999

TRANSMISSION OF AML

	Transmission channel	Are several AML messages sent during the call?	Time Delta defined for the SMS to be sent
Austria	- SMS to a long number - HTTPS	One via SMS and one via HTTPS	20 sec.
Belgium	- SMS to a short number - SMS to a long number	Yes: 2 for Android; 1 for Ios	Android: At the beginning of the call and an update after 20 seconds, Apple: after approximately 20 seconds
Croatia	- SMS to a short number - SMS to a long number	Android: One after 10 sec, another one after 30 sec and then one every 60 sec	Android: 10 sec.; 30 sec.; 60 sec
Denmark	- SMS to a long number	Android: Yes; iOS: No	60 seconds
Estonia	- SMS to a short number	Android: Yes; iOS: No	20 seconds
Finland	- SMS to a short number	Android: Yes; iOS: No; Harmony: No	Google ELS: 5,15,25,30 sec. and after that every 30 sec until the call ends , Apple AML: one position after 15-20 sec.; Huawei AML: one position after 10-20 sec.
France	- SMS to a long number	Android: Yes; iOS: No	1 minute
Germany	- SMS to a short number - HTTPS	Android: 3; iOS: 1	First position as soon as it is available then 15s. and 35s
Greece	- SMS to a short number	Android: Yes	Android: 25 and 60 seconds
Hungary	- SMS to a short number	No information available	No information available
Iceland	- SMS to a short number	Android: 2; iOS: 1	One after 0 sec. and another after 20 sec
Ireland	- SMS to a short number	Yes; Android: 4; iOS: 1	No criteria has been defined, however AML messages are typically received in between 8 and 10 seconds from the start of the emergency call.
Latvia	- SMS to a short number	Yes (Android)	Android : 20 sec, 20 sec, 20 sec, 60 sec, 60 sec, 60 sec...

	Transmission channel	Are several AML messages sent during the call?	Time Delta defined for the SMS to be sent
Lithuania	- SMS to a short number	No	Android ELS: 30 sec., Apple iOS AML - not known, no time delta customisations available per country.
Moldova	- SMS to a short number	Yes (Android)	Android: One after 10 sec., another one after 30 sec. and then one every 60 sec
Netherlands	- SMS to a short number	Android: Yes; iOS: No	Android: First location, 20 seconds and then every 60 seconds
New Zealand	- SMS to a short number	No information available	Android: after 25 seconds
Norway	- SMS to a short number	Android: 2; iOS: 1	Android: One after 10 sec., another one after 30 sec, and then every 60 sec.
Romania	- SMS to a short number - HTTPS	Multiple messages for Android ELS, One single message for Apple AML	Android ELS: First Fix, 15 sec, 34 sec, every 60 sec. Apple AML: First Fix
Slovenia	- SMS to a short number	During the duration of the call, in most cases we get one or two AML messages. (for Android)	Android: One after 0 sec. and another one after 25 sec
Sweden	- SMS to a long number	Android: 2; iOS: 1	Currently 5 and 25 sec (Android). Default (20 secs) iOS
United Arab Emirates	- SMS to a short number	2 messages for Android; 1 for iOS	Android: one after 10 seconds and another one after 30 seconds
United Kingdom	- SMS to a short number - SMS to a long number	No, only one message sent at start of the call.	15-20 sec. is the time delay at handset to establish a location. Stage 1 PSAP answers voice calls within 1 second (on average) with average time to receive AML after voice answered being 16 seconds.

OTHER FEATURES

	AML for roaming (Android ELS only)	AML for Text-to-112, or equivalent (Android ELS only)
Austria		
Belgium	Short number	X
Croatia	Long number	X
Denmark	Long number	
Estonia		
Finland		X
France	Long number	X
Germany		
Greece		X
Hungary	Long number	
Iceland		X
Ireland		
Latvia		
Lithuania		X
Moldova		X
Netherlands		X
New Zealand		X
Norway		X
Romania		X
Slovenia		
Sweden	Long number	
United Arab Emirates		X
United Kingdom	Long number; HTTPS	X

FIGURES

	Average % calls where a position was received	% AML messages within 30 sec.	% AML messages within 15 sec	% AML messages with accuracy below 100m.	% AML messages with accuracy below 50m	Share of locations per positioning method
Austria	Not available	Not available	Not available	Not available	Not available	Not available
Belgium	80%	100%	50%	95%	95%	Not available
Croatia	77%	98%	90%	85%	approx 75%	GNSS: 32%; Wifi; 59%; Cell: 7%

Denmark	70%	iOS: 98,5%; Android: 85,3%	Within 10 seconds: iOS: 97,1%; Android: 71%	94,60%	Below 20 seconds: 44,2%	iOS - GNSS: 60%; Wifi: 39,8%; Cell: 0,2% Android - GNSS: 20,5%; Wifi: 67,5%; Cell: 12%
Estonia	Not available	Not available	Not available	Not available	Not available	Not available
Finland	Not available	Not available	Not available	83%	72%	GNSS: 26%; Wifi: 62%; Cell: 10%; no location: 2%
France	52%	77%	66% within 20 sec.	91%	85%	GNSS: 37%; Wifi: 56%; Cell: 5%
Germany	65%	100%	50%	90%	75%	GNSS: 49%; Wifi: 48%; Cell: 3%
Greece	Not available	Not available	Not available	Not available	Not available	Not available
Hungary	34%	94%	87%	77%	63%	GNSS:29%; Wifi: 61%; Cell: 6%; No location: 3%
Iceland	Not available	Not available	Not available	Not available	Not available	Not available
Ireland	Not available	Not available	Not available	Not available	Not available	Not available
Latvia	Not available	98%	97%	61%	19%	Not available
Lithuania	53,60%	60,50%	16%	80,60%	Not available	GNSS: 39,4%; Wifi: 43%; Cell: 4%
Moldova	40%	53%	31%	80%	72%	GNSS: 27%; Wifi: 56%; Cell: 17%
Netherlands	Not available	Not available	Not available	90%	80%	GNSS: 39%; Wifi: 54%; Cell: 5%
New Zealand	80,22%	96,85%	14,55%	84,15%	72,12%	GNSS: 46,55%; Wifi: 45,84%; Cell: 2,64%; No location: 4,97%
Norway	70%	Not available	Not available	Not available	Not available	Not available
Romania	38,98%	HTTPS: 97%; SMS: 89%	HTTPS: 92%; SMS: 80%	HTTPS: 86,68%; SMS: 81,04%	HTTPS: 79%; SMS: 76%	HTTPS: GNSS: 26%; Wifi: 65%; Cell: 8%; N/A: 1% SMS: GNSS: 28%; Wifi: 58%; Cell: 11%; N/A: 3%
Slovenia	Not available	39,38%	49,10%	Not available	Not available	Not available
Sweden	50%	97,50%	92,20%	92%	64%	Android - GNSS: 47%; Wifi: 51%; Cell: 2%; iOS - GNSS: 60%; Wifi: 40%
United Arab Emirates	Not available	Not available	Not available	Not available	Not available	Not available
United Kingdom	75%	97% within 20 sec.	Not available	97%	70%	GNSS: 48%; Wifi: 40%; Cell: 5%; No location: 7%

Annex 2 : Questionnaire

Organisation and country: _____

1. AML coverage in the country

1.1. Is AML operational in the whole country?

- Yes
- No (please give more details): _____

1.2. For which operating systems is AML working in your country?

- Android
- iOS (Apple)

1.3. When was AML activated in your country? _____

1.4. For which emergency service is AML working?

- Emergency Medical Services
- Police
- Firefighters
- Other (please precise): _____

1.5. For which emergency numbers is AML activated?

2. Legislation

2.1. What is the legislative framework in your country to receive AML locations (privacy rules, rules on emergency caller location...)

3. End-point and transmission

3.1. How are the AML messages transmitted to the end-point?

- SMS to a short number
- SMS to a long number
- HTTPS

- 3.2. Is the transmission of the AML message free to the caller (message 'zero-rated')?
- Yes
 - No
- 3.3. Which organisation maintains the AML end-point?
-
- 3.4. Are several AML messages sent during the duration of the call?
-
- 3.5. What is the time delta defined to receive AML positions?
-
- 3.6. How is the location information transmitted from the technical end point to (other) PSAPs in the country?
-
- 3.7. Are AML positions presented directly in the call-takers' GIS?
- Yes
 - No

4. AML Evolutions

- 4.1. Is AML also activated for roaming? (Android ELS only)
- Yes, with a long number
 - Yes, with HTTPS
 - No
- 4.2. Is AML also working for Text-to-112 (or equivalent)? (Android ELS only)
- Yes
 - No

5. Figures

Can you please share some figures on...:

- 5.1. Average percentage of calls from a mobile phone where an AML position is received?
- 5.2. Percentage of AML messages received within 30 seconds
- 5.3. Percentage of AML messages received within 15 seconds
- 5.4. Percentage of AML messages with an accuracy below 100m.
- 5.5. Percentage of AML messages with an accuracy below 50m.
- 5.6. Percentage of locations through GNSS? Wifi? Cell
- 5.7. Comparison between accuracy provided by AML and accuracy provided by Cell-ID

6. Success stories

6.1. Share some success stories that occurred in [year]

6.2. List the companies that helped in deploying AML in your country