



Estonian's 112 system

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Estonia



Population – 1 342 000, area - 45 227 km²



Emergency Numbers

- **112** fire and EMS – managed by the Estonian ERC
- **110** police – the Police Call Centre
- Numbers 112 and 110 merged by 2014. Only 112 remains for all emergency calls
- Unification of ERC and Police Call Centres started in 2010

Size of operations and human resources



- ERC is a government institution, in the jurisdiction of Ministry of the Interior
- Financed from the state budget
- **HR details:**
 - 154 call-takers + 8 doctors in the ERC
 - 1300 persons in 90 EMS teams
 - 6000 police officers and border guards
 - 1810 rescuers in 80 teams (voluntary teams not included)

Citizens knowledge of 112

- Knowledge of 112 as national emergency number: 90% (Eurobarometer 2011)
- Knowledge of 112 as the EU emergency number: 44% (Eurobarometer 2011)

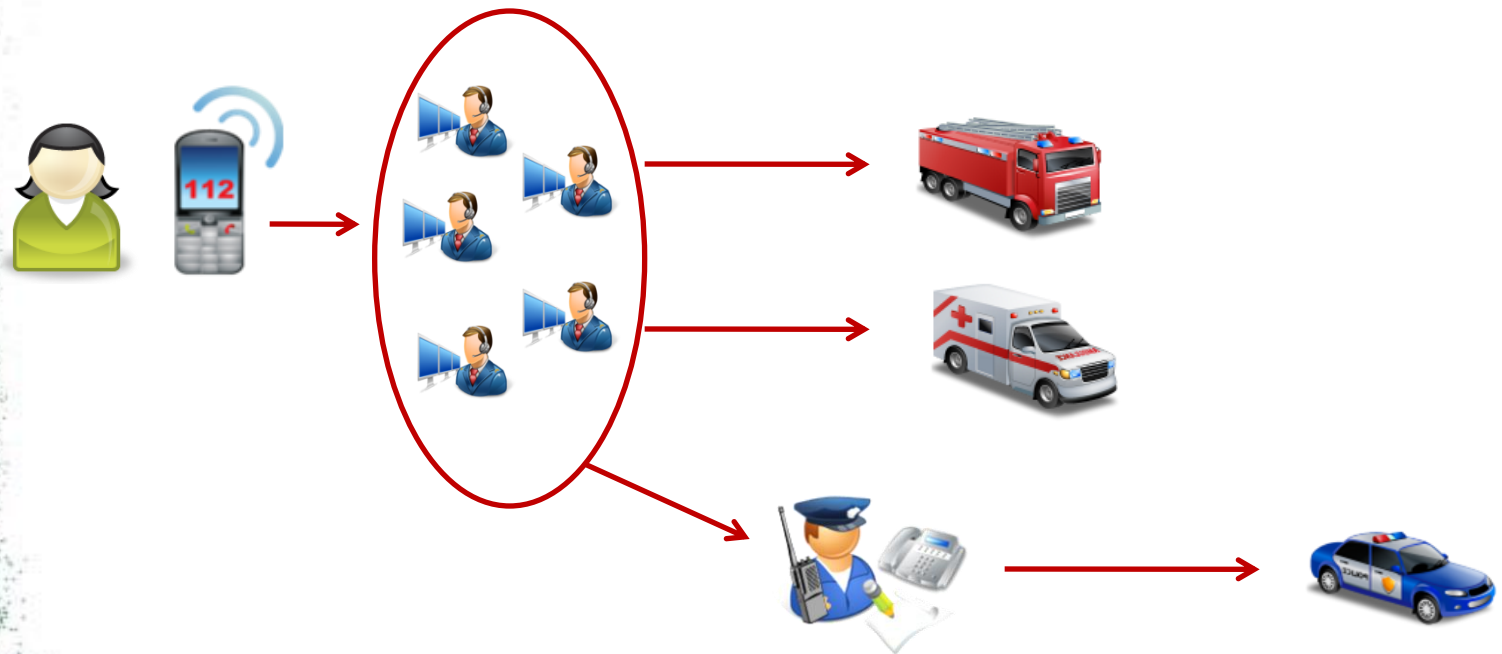
Promotion

- Education programs on 112 in elementary schools as a part of different subjects
- Several articles in press to improve knowledge of 112 among elderly people
- Different events on European 112 Day
- Safety days held over Estonia



112 model in Estonia

Main characteristic: 4 regional coordination centres. Fire and EMS integration in the coordination centres, police in its own local PSAPs (4 regional centres). Except Eastern Centre where ERC call-takers handle both 110 and 112 calls.





Integration of services in control room

- 4 regional centres use one database (which allows overflow). User-interface SOS for call-takers is based on this database.
- Fire services use the same database as ERC, but have separate user interface (OPIS). Information exchange is possible.
- EMS do not use the same database, but ERC operators can send data to the EMS software.
- Police has its own database (No link to ERC)



112 access

- National roaming possible – mobile calls go to the 112 centre, where the phone is located. ERC-s divided into 4 regions which consist of 2-6 counties.
- No VOIP connectivity now, because considered unreliable.

Managing alerts from automatic systems

- ATEs (automated fire signalisation system) for places with significant importance (production or population). Regulated by legal acts. Directly connected to ERC and fully integrated to SOS database.
- Database system for management of automated systems which forwards signal to ERC and requires obligatory dispatch of one rescue unit.



Emergency call statistics

- 1 million emergency calls per year / ca 83,300 calls per month. 15,000 calls processed cases through overflow per year;
- 285,000 processed cases per year. One case can have up to 15 incoming calls. 2,1 million radio communication contacts per year;
- Largest amount of calls around 17:00-23:00. Peak hours are also 08:00-09:00 and 14:00-16:00. On weekends more calls late in the evening.
- **Hoax calls** - made by children or mentally unstable persons with the purpose to disturb the call-taker.
- Hoax calls not counted as % because ERC is also acting as a call routing point for all types of emergency calls.
- Amount of prank calls relatively low. Hoax calls traced and treated by ERC and local authorities
- No blacklisting – you never know when there is an emergency



Call-handling figures

- Average response time: 6 seconds for calls
- Average call duration 1:45 minutes (including consulting calls)
- Intervention time depends on priority level, which is set by call-takers during the emergency call.
- Legislation guidelines for EMS, fire and police to react within set time frame (depends on priority)
- 27 call-takers in daily shift and 22 call-takers in night shift



Call-handling aspects

Mission

- Estonian ERC call-takers have to secure all calls to 112 are responded, solve all medical and rescue cases in best possible ways by receiving, processing and documenting emergency calls, dispatching rescue or/and EMS teams and keeping operational radio contact with dispatched units.

Training

- Call-takers and dispatchers trained in the Väike-Maarja Rescue College for 1 year.
- Studies include medical and rescue training, languages (Est, Rus, Eng), call handling skills and practice in ERC.
- Suitable candidates selected by local call-centre managers and the final selection is made with College representatives and ERC recruiters.



Call-handling aspects 2

2-stage call handling system

- Call-takers are not dispatchers. They insert the location information and risk level estimation into common database. Then the dispatchers using information from the database assign necessary resources to the event and manage radio contact with dispatched units.
- Persons in emergency do not have to explain their situation several times to different call-takers.
- Dispatchers give pre-arrival instructions to rescue units and call-takers stay on the line with the caller for further assistance.
- Possible to see caller phone number and call-back used by ERC if updates needed.



Call-handling aspects 3

Call-taking protocols

- Medical and rescue questionnaires to evaluate the priority of call
- Priority dispatch is set by the Government regulation

Psychological support

- Several psychological support models used, now team support methods.
- Complementary psychological training every year for all call-operators.

Liability

- Call takers are legally liable under same conditions (liability law) like all public servants in Estonia.

Multilingual calls

- The language use depends from the region.
- In North 50% of calls in Estonian, 50% in Russian
- In East 30% in Estonian, 70% in Russian
- In West and South 95% in Estonian and 5% in Russian
- English and Finnish calls possible
- ERC uses multilingual call-takers, who specify in the call integrated communications system, which calls they can take
- Estonian, Russian and English courses included in 1 year college training.

Transfer of calls and data sharing between organisations

- Possible to transfer calls to other emergency services (Police) and regional PSAP-s (overflow). Call transfer time not monitored as it depends on the capability to receive the call.
- Emergency call and caller data shared only with regional PSAP-s, Police, EMS (Ministry of Social Affairs), Information and Analysis Department of Ministry of Interior.
- Overflow solution for situations when one PSAP busy. One database allows constant overview of all calls for all PSAP-s.
- Regional cases separated by special marking in the SOS-database.
- Dispatch order not set by regions, but closest unit has to react.
- Emergencies relevant to several PSAP-s (forest fire) managed by leading officers on-site. LO can request more resources from PSAP when necessary. PSAPs still manage all regional resources listed active for this day.

Accessibility for people with disabilities

- No special-trained call-takers for disabled people, but this topic is included in the college training;
- Emergency assistance via fax for disabled people. Special forms distributed through disability organisations.;
- SMS 112 project in process. Current deadline the first half of 2012.





Caller-location

- Caller location is pull-based, but the system is currently updated and will change when GIS-112 project (Swiss Contribution co-operation programme) is implemented.
- Currently with 2 mobile operators out of 3. Landline phones not positioned.
- Max time 20 seconds. Accuracy depends on the network (100m-1,5 km) Free for ERC. GIS map, but out of date. Roaming callers included.
- Caller location service is free for PSAPs. Costs beared by mobile operators.
- Possible to automatically forward the caller-location to other PSAPs via common database.



Citizens feedbacks and satisfaction

Feedback

- Citizens can send feedback and complaints to the ERC
- Citizen complaints are processed by regional call centres and monitored by central ERC. If great public interest included the administration is also notified
- All calls are recorded and stored for 1 year

Satisfaction

- Citizen satisfaction with 112 service 91% in Estonia (2011 Survey).



Public warning

- Public warning system is organised in co-operation with Estonian National Broadcasting (TV-Radio).
- Mass notification loudspeakers system in some cities, but not in all.



Challenges and Projects

- SMS service for hearing and speech disabled people;
- GIS-112 project has started in 2010 (includes updating of the caller location system);
- Integrating Police Control Centres to ERC centres. We want to use a single and integrated technology. Numbers 112 and 110 merged by the end of 2014. Only 112 remains for all emergency calls.

Technology providers

- Partcom - recording
- Voicecom – recording (Direc recording)
- Elion – telephone communications
- Aastra, ESECOM – Solidus (integrated communications system) and data communication equipment
- Cassidian - DWS



Thank you for your attention!

More information:

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