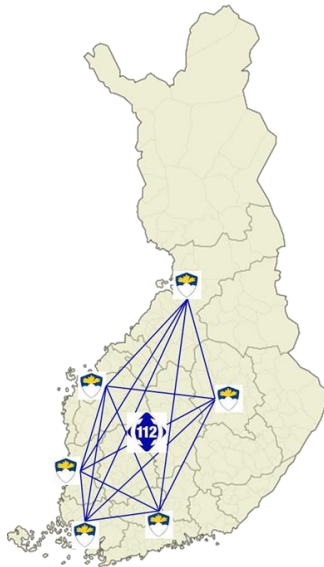




## EENA Case Study Document



# MANAGING CHANGE: The example of Finland From 15 centres to a network of 6 centres



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## 1 Executive summary

The Finnish administration's view was "In 2015 Finland will have a coherent, networked and reliable nationwide Emergency Response Centre Administration as the first link in responding to emergency needs quickly and professionally." To accomplish it, a deep reform took place inside the Finnish emergency services structure. The 15 emergency services centres were reduced to a network of 6 centres. In this document the experience of how this change was achieved and important lessons learnt are detailed. This document is of high interest for all public authorities foreseeing a similar reform.

## 2 Emergency Response Centre Activities in Finland

### 2.1 ERCA's history in brief

In Finland, the first shared fire emergency response centres serving the municipalities were already in operation by the late 1950s. A legislative change in 1976 brought with it the obligation for municipalities to establish regional emergency response centres. The initial disposition of 58 emergency areas for rescue services mirrored the prevailing telephone network.

At first the new regional emergency response centres only handled fire and rescue service calls. Following further legislative change in 1983 the centres were transformed into general emergency response centres, with a brief extended to cover emergency social and health care calls. In 1991 the number of rescue service emergency areas had to be reduced from 58 to 27.

The traditional village police system was still operating in rural areas in the 1960s. There were no separate alarm centres, but each policeman could be contacted at home by telephone. In 1991 there were 246 police districts, comprising 26 city police departments and 220 rural police districts. Police emergency call centres operating round the clock numbered 75.

There were different emergency numbers and systems for different authorities with a lot of variations throughout the country. The situation caused many times loss of time or information when there were multiauthority missions. Having so many separate centres with different systems was not also seen supporting co-operation and seen cost-effective.

Planning for a joint emergency response centre for public authority services was launched in 1991. A five-year emergency response centre trial was initiated in 1996 in four areas.

### 2.2 ERCA established in 2001

Parliament prepared a new Emergency Response Centre Act, on which the Council of State issued a Decree, each entering into force on 1 January 2001. The Emergency Response Centre Administration assumed responsibility for emergency response centre operations in stages extending until the end of 2005. By the dawn of 2006 all 15 emergency response centres were in operation. Almost at the same time with ERC renewal a new TETRA radio network called VIRVE for all authorities was built covering whole Finland. This was one of the very first nationwide TETRA networks in the world.

The emergency response centre administration is a national government agency, established in 2001, that consists of central administration and emergency response centres throughout Finland. The Emergency Response Centre Administration is an agency under the Ministry of the Interior. The Ministry is jointly responsible for performance guidance for the agency together with the Ministry of Social Affairs and Health. The Emergency Response Centre Administration provides emergency response centre services throughout Finland, except for the Åland Islands.

The duty of the Emergency Response Centre Administration is to receive emergency calls from all over the country for the rescue, police and social and health services; handle communications relating to the safety of people, property and the environment, and relay the information they receive to the appropriate assisting



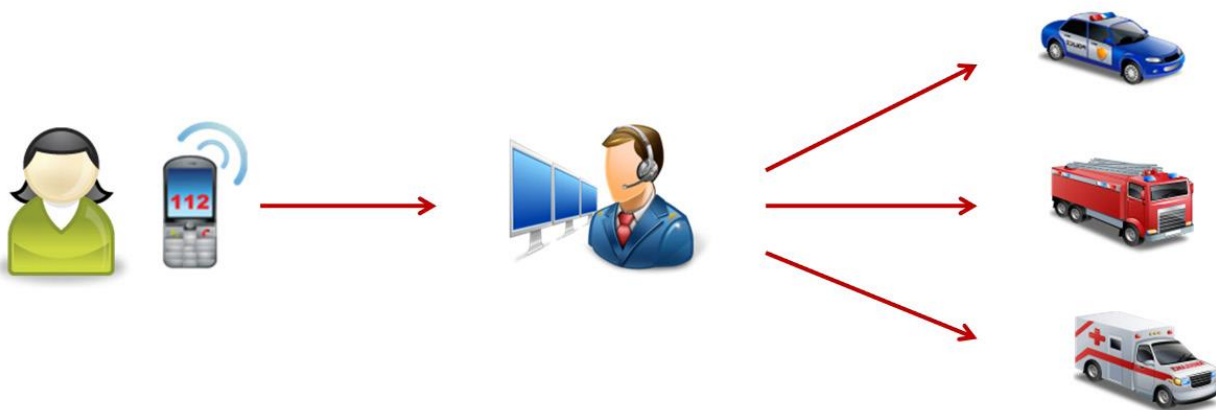
authorities or partners. The operating model of Finland's emergency response services can be deemed progressive from an international standpoint.

Citizens should always call the emergency number 112 in urgent, actual emergencies where a person's life, health or property or the environment are threatened or in danger or if there is reason to suspect this to be the case. The successfulness of processing of emergency call depends on the effectiveness of the risk assessment. Risk assessment refers to the assessment of an emergency situation according to the processing instructions issued by the authorities to the Emergency Response Centre Administration. The purpose of risk assessment regarding an emergency call is to determine the quality, scope and urgency of the incident. Based on the information received, the duty officer at the emergency response centre relays the task to appropriate units who are thus dispatched to provide assistance.

ERC operators are trained in Emergency Services College and in the Police University College and the training last 18 months (police: about three years). The qualifications are ERC operator's diploma or diploma in Police studies (in the future the Bachelor of Policing degree). All the operators should be able to work as call-takers or dispatchers.

The role of the call-taker is to answer to the calls, evaluate the need for assistance, locate the incident site, make the risk analysis, dispatch the task to the appropriate units in urgent cases and advise the caller and the field units when necessary.

Dispatchers ensure the alarms, manage the resources, alert the units in non-urgent cases and assist the units in the mission with database inquiries, communication, alerting extra units etc. They also manage the tasks put on the waiting or tracking list.



Picture 1. PSAP model in Finland



### 3 Background of the renewal

#### 3.1 The first phase of ERC renewal in Finland

ERC Administration had been operating less than 10 years when the first phase of renewal was analysed in the Government report. The Government report on ERC reform (2007) and the report of the Administration Committee of the Parliament (3/2008 to Parliament) call for harmonisation of ERC operations at the national level, greater operational efficiency, and increased productivity through development of ERC Administration structures.

It was also said that fulfilling the society's expectations for the emergency services would have required an addition of more than 100 persons to ERCA. Therefore the Government expected improved ability to manage rush hours and crises with a networked model. People around Finland should also get the same quality of 112 services and therefore the models of operations should be uniform. The Government's productivity program effected every authority and that meant a need for finding solutions to handle the tasks with less personnel. Other important catalysts for change came from the clients of 112 services - citizens and authorities getting 112 services. They both expect ERCA to develop new services whenever there are new technical solutions etc.

The reform of emergency response centres is based on a decision issued by the Ministry of the Interior on 15 May 2009, according to which emergency response centre activities will be developed by 2015 according to the strategic outlines produced.

#### 3.2 Joint strategic planning and guidelines for development

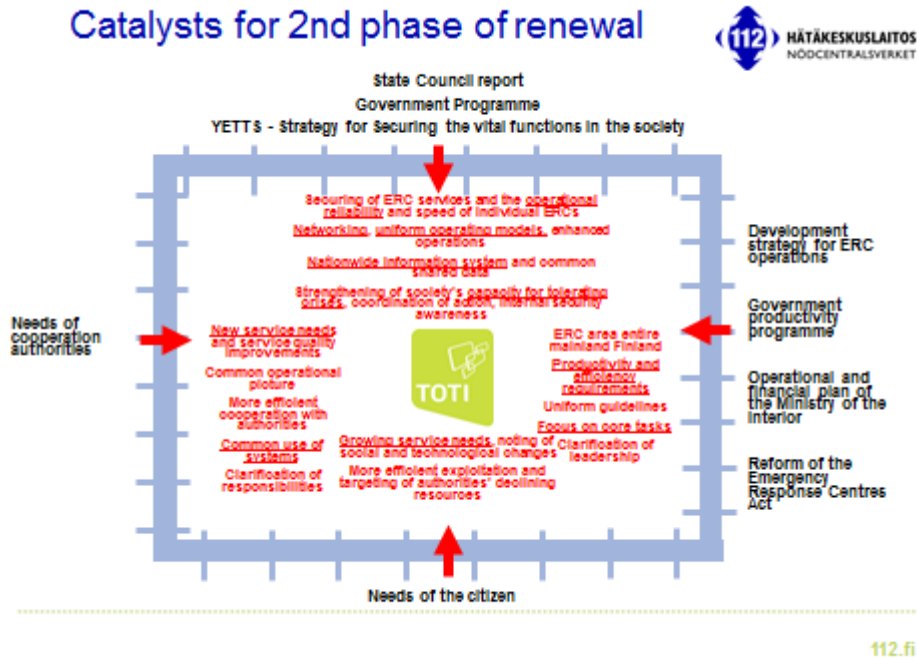
Lessons learned from the first phase of the renewal were that

- There is never enough contribution on communication, co-operation and coordination
- Tasks that belong to ERCA and the strategy how to implement new ERC services must be clear
- All parties have to commit to the strategic outlines
- Ministries must step up and uniform their field of operations
- Practical know-how of the ERC work is required in every level that are involved in the change
- Make new instructions, protocols and processes before the change together with other authorities
- New IT systems must be prepared thoroughly and together with authorities - do not forget the need for information flow between different systems and databases
- A separate "change management team" is necessary
- Manage the cultural change - in the ERCs and on the field
- Extra resources to enable enough training until situation has stabilized
- Renewal has its price

The Ministry of the Interior gathered the core stakeholders into a work group the mission of which was to define the strategic goals for emergency services in the future. According to the decision by Ministry of the Interior 15.5.2009 ERC services were to be developed until 2015 within following strategic guidelines:

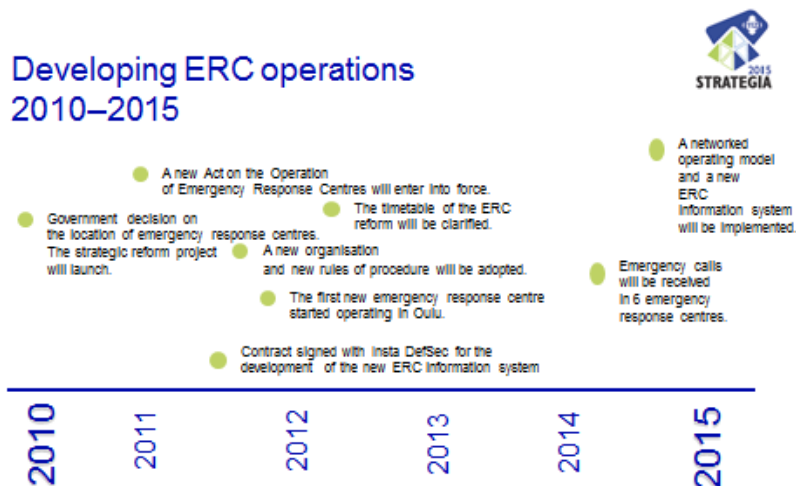
- No more fixed regional division - area is Finland as a whole for every centre
- ERCA focuses on its core tasks - non-critical services are to be minimised and done another way
- ERC services are uniformed - service is equal in every area which is a requirement for networking
- Services are adopted to economic resources - do more with less money

- Good HR policy in the implementation - every ERC worker is offered a job in the organisation change
- The vision of ERCA was: "In 2015 Finland will have a coherent, networked and reliable nationwide ERC Administration as the first link in responding to emergency needs quickly and professionally."



Picture 2. Catalysts for change

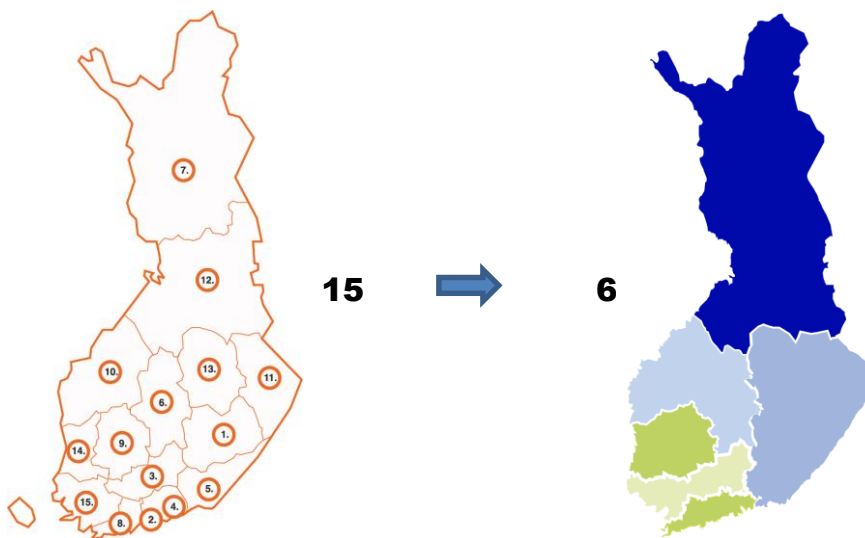
### Developing ERC operations 2010–2015



Picture 3. Updated time schedule 2010-2015

### 3.3 New regional division and locations of emergency response centres

The rearrangement of emergency response centre (ERC) operations was finalized in January 2010 when the Finnish Government decided to divide the nation into six ERC regions on 21 January 2010. The new regional division was outlined to match the service level expectations of the population and the authorities. On 9 March 2010, the Ministry of the Interior determined the locations of ERCs and the targeted schedule of the merger.



Picture 4. Change from 15 areas to 6

The targeted schedule of mergers of new ERCs was preliminarily specified in a decision made by the Ministry of the Interior on the basis of which the ERC Administration decided to implement the mergers of the ERCs in the following timetable:

- Oulu (North Finland and Lapland), 8 November 2011
  - Kuopio (East and Southeast Finland), 4 December 2012
  - Pori (Pirkanmaa and Satakunta), 19 November 2013
  - Kerava (Uusimaa), 18 March 2014
  - Turku (Southwest Finland and Häme), 8 April 2014
  - Vaasa (Ostrobothnia and Central Finland), 25 November 2014

The Emergency Response Centre Administration faced significant new challenges in 2010. An operational strategy was drawn up for the agency effective until 2015, the Government decided on new ERC regions, and the new Act on Emergency Response Centre Operations was being prepared. The act entered into force at the beginning of 2011.

The key things in the new Act were that it made different responsibilities related to the emergency response services more clear. Operational decision-making belongs to the agency and ministries manage strategic guidance, budgetary planning and legislation. Another important issue in the new Act was that it enables more flexible arrangement of ERCA's work, because the area of responsibility for operators was the whole continental Finland. Networking of ERCs was taken into consideration in the legislation process.





## **4 Implementation of the structural renewal**

### **4.1 HAKMU project established to ensure the necessary resources for the initial execution of the organizational renewal**

A strategic change project called HAKMU was established for the central administration of the ERC Administration for the enforcement of the decisions and guidelines issued by the Government and the Ministry of the Interior.

The main objective of the project was the planning of a new management and administration model; the aim is for the ERC Administration to transfer to a new administrative and management structure and the operating model specified by the ERC Administration by the end of 2015. Another goal was to merge and unify operations of the ERC Administration and reduce the number of emergency response centres.

In 2010 a project plan was confirmed for the HAKMU project, comprising a project description, project plans for three subprojects, and a communications plan. At the end of 2010 the total scope of the project was 12.5 man-years.

The structural reform measures proceeded in line with the project plans in 2010. Key results included enhancement of the operational main structure of the ERC Administration and preparation of personnel policies related to the structural reforms.

### **4.2 New organization and standard operating procedures**

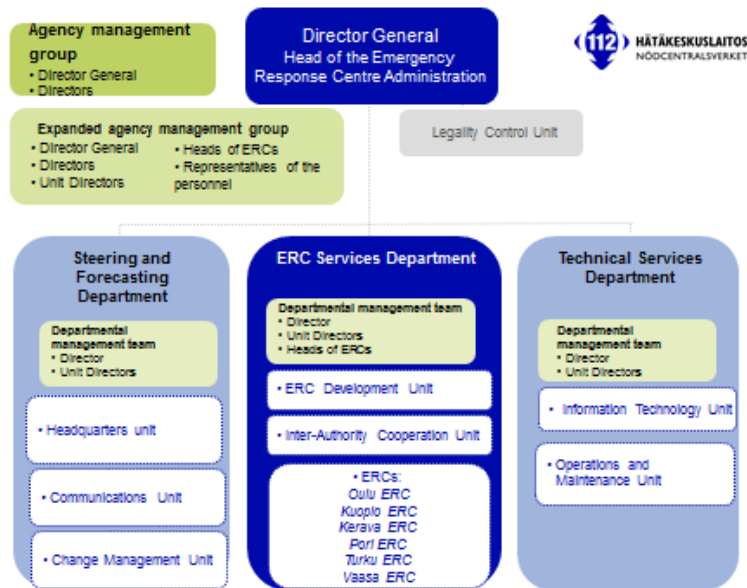
The purpose of the strategic development project started in the spring of 2010 was to forge the ERC Administration into a cohesive department in which ERCs, in terms of their resources, organization and management system, constitute a uniform operating unit.

The objective was made concrete by the adoption of the new operating rules of the ERC Administration in October 2011. It changed the agency's operating models such that they comply with the new legislation and serve and promote the achievement of the strategic goals set. The operation of the ERC Administration was divided between three departments. New aspects of the structure include independent control of legality as well as the enhancing operations and bringing these together under one department.

In this reform, the organizational structure of the ERC Administration became similar to that of other national agencies.

On 1 September 2012, a fixed-term change management unit was set up at the Steering and Forecasting department of the ERC Administration, whose mission is to steer and coordinate the overall planning of the structural change.

The new organizational structure of the ERC Administration after this reform was as follows.



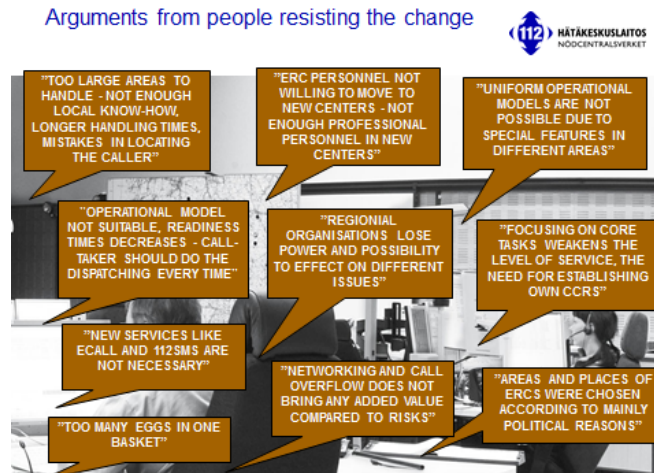
Picture 5. New organizational model from 2011

### 4.3 A lot of resistance of change as expected

After the decisions and before starting the actual change ERCA faced a lot of resistance - especially in the areas that lost their ERCs. Many of these arguments were familiar from the first phase of the renewal in 1999-2006 and have later on shown to be exaggerated, but still they must be taken into consideration.

The resistance has been highest after the "honey moon period" of the new centre. The main reason has been that the new uniform operational models and details linked to it have not been communicated to the field level. Communication chain inside ERCA's stakeholders has not been working as it should have. There was a lot of tabloids at first, but after analysing the possible mistakes and making corrective actions, they start to disappear and co-operation with agencies goes back to normal. The best way to shoot the criticism down is to show the facts, not to argue back.

#### Arguments from people resisting the change



Picture 6. Arguments against the change



## **5 Operating principles on personnel policy in the implementation of the structural reform at the ERC Administration**

The key principle specified for the implementation of the structural reform was to observe sound personnel policy in order to ensure uniform methods of operation in securing the position of the employees.

Two fixed-term personnel coordinator positions were established upon the launch of the structural reform to guarantee the fulfilment of effective staff policy. The key duty of the personnel coordinators was to ensure that employees affected by the change be guaranteed uniform status, rights and obligations in the implementation of the change.

The text below describes an outline of the operational principles and practices, related to personnel policy, which the ERC Administration has followed in the implementation of the structural reform.

### **5.1 Employee status and general job transition security**

During the implementation of the structural reform, all permanent employees were offered jobs in new ERC locations.

Staff members affected by the change were entitled to all change benefits according to the collective agreement; key among these were

- compensation for relocation costs
- relocation bonus, and
- visits to the ERC

The personnel coordinators held personal change discussions with employees impacted by the change in all the ERC locations. The staff members were also offered other support services related to the change, such as consultation on preparing for job interviews, writing job applications or charting opportunities for continuing education.

### **5.2 Official titles in the merger of the ERCs**

When the new ERCs began operation, official titles related to the ERC operations room were unified such that the new titles are: ERC Operator, Senior ERC Operator, Senior Constable, Police Sergeant, Shift Supervisor, Shift Supervisor; Police Sergeant, Shift Supervisor; Senior Constable, ERC Assistant.

During the implementation of the structural reform, unified descriptions of competence requirements as well as job descriptions were prepared for the various personnel groups and official titles. The goal was nationwide uniformity, so that the different personnel groups at all the ERCs have essentially similar job descriptions and work duties.

The tables below shows the overall trend in operational and administrative employees during the structural reform. For example the number of shift supervisors has decreased from 84 to 36, but at the same there was established a new title - Senior ERC Operator (72 man-years).

The number of chiefs and communication chiefs in the ERCs was 30 before the renewal and now there are only 12 chiefs overall in the centres. The specialist working in ERCs and in different departments are also included into to administration number. It is also good to notice that there are a lot of temporary project personnel included due to structural change and ICT project TOTI.

	2007	2008	2009	2010
<b>Man-years</b>	745	733	738	742
operative	609	615	622	614
administration	136	118	116	128
the total number of personnel 31.12.	750	733	740	759

	2011	2012	2013	2014
<b>Man-years</b>	750	746	684	664
operative	606	603	556	549
administration	144	143	128	115
total number of personnel 31.12.	766	735	691	647

Table. Development of man years and personnel costs during the renewal

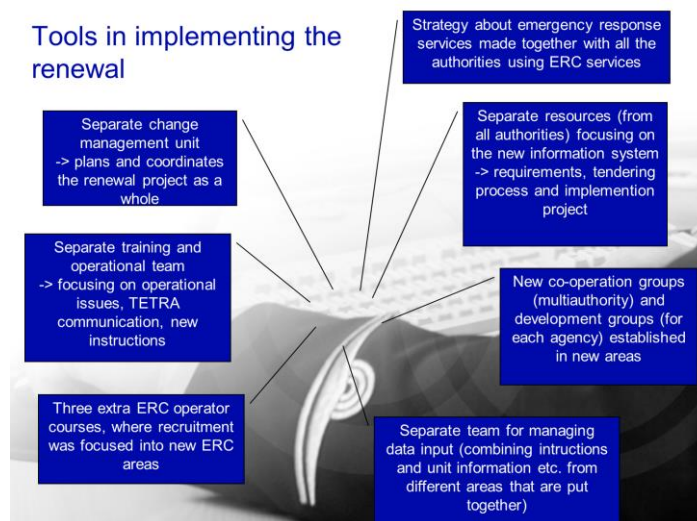
### 5.3 Significant investment in the development of skills and guidelines

In the implementation of the structural reform, one of the goals was to unify the on-duty operations of the emergency response centres (receipt of emergency calls, risk assessment, distribution of tasks/decision not to relay an assignment, operations room logistics, operational monitoring, management of ERC room operations, and support services provided and the level thereof). A separate team comprising four people was resourced for the development and unification of on-duty operations; its tasks also included updating of operational guidelines.

The aspects mentioned above have been developed and actively assessed throughout the change process. The following practical measures have been taken in every ERC region:

- observation of operations before the change
- observation of operations after the change.

The information and experience obtained from observing operations have helped the ERC Administration develop its operations, guidelines, training and cooperation with other authorities.



Picture 7. Tools in implementing the renewal

## 5.4 Securing employee competence

One of the most important areas of focus in the implementation of the structural reform was to secure the competence of ERC employees. An extensive program on further training was carried out in all the regions merged during the transition project, consisting of the following study modules:

- Principles of ERC room operations
- Use of the reformed ELS ERC IT system
- Management of ERC operations rooms

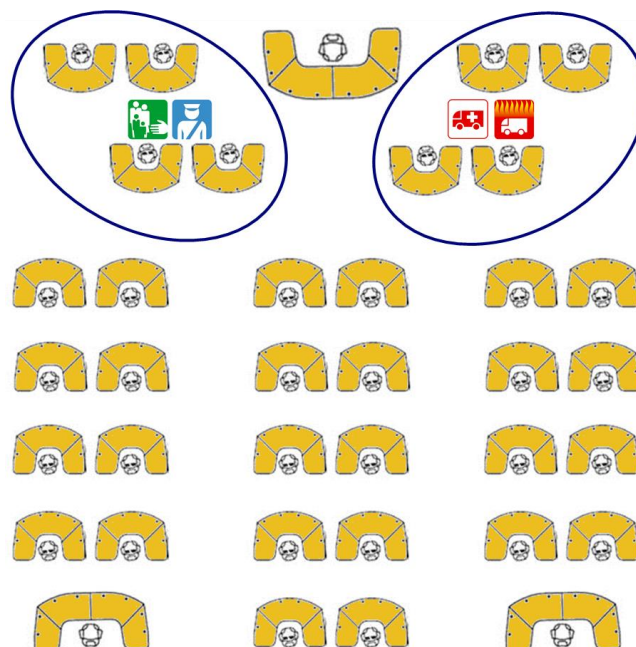
The training events were arranged by taking account of the start dates of the new ERCs, meaning that most training events were held immediately before the launch of the operations of the new ERC.

A total of six training days per person were provided to all on-duty staff on ERC room operations and the reformed ELS IT system.

All the shift supervisors of the new ERCs were given 8-10 days of training on management of ERC operations rooms.

## 5.5 Work roles and operations room layout

Operators have different work roles at an ERC operations room. The shift supervisor manages the activities in the operations room. Operators work on receiving calls, monitoring and supporting operations, and testing alarm systems.



Picture 8. The basic design of operations room in new centres



Before the renewal some centres were so small that it was not possible to have similar work-processes and roles in each centre. After the renewal there are enough personnel in each centre to follow nationwide guidelines.

Although the work roles are now similar in each new ERC, there are still various things that have an effect on how many operators there are for each role. The ERCs are still of different size and Kerava ERC has about two times more personnel and workstations than the smallest of the new centres, because Kerava ERC's area of responsibility has more inhabitants and therefore more calls. The amount of workload varies a lot during daytime and the most difficult challenge is the summer, because all areas have the highest amount of calls during June and July (up to 30% more compared to winter months) and it also the vacation period for ERC personnel.

The number of personnel in operations room in different ERCs and situations is normally:

- One shift supervisor
- 2-8 dispatchers
- Head-dispatcher for police
- Head-dispatcher for EMS/rescue
- Assistant dispatchers for radio communication and supportive tasks
- 6 to 28 call-takers
- 1-2 call-takers for testing of automatic alarm devices

In the beginning of ERC renewal about 15 years ago the design of control room was based on many assumptions rather than knowledge. There was not much facts about the requirements of a multiauthority PSAP processes. A lot of emphasis was put on the ergonomics and sound control. Workflow, interaction and management requirements in bigger centres were not fully recognized.

The layout of the operations room was one issue that was brought up in the TOTI project. The Technical Research Centre of Finland (VTT) was involved in planning and ERCA's personnel formed a work group for development of control room and workstation (layout) design. There was also an inquiry for the personnel. The development brought up some points of view such as:

- technical (layout of devices and equipment, interfaces into different systems)
- user based needs (lighting, ergonomics, acoustics, work roles, use of space/passageways)

After analyzing different options the starting point was that call-takers and shift supervisor/dispatchers face each other. The recommendation was also that the information on the wall should be minimal (112 queue situation and supervisor's briefings) and majority of the necessary information for the call-taker and dispatcher should be available in their own workstation. City cameras etc. were also seen more important for police's own command and control rooms than for ERC's duties.

Bigger centres required improved communication inside the operations room, so an own talk group in TETRA radio for internal communication was established. The layout of the workstation was made similar everywhere: 2 screens for CAD (right hand mouse) + 1 screen for TETRA DWS (left hand mouse).

## 6 Efficient cooperation and communication

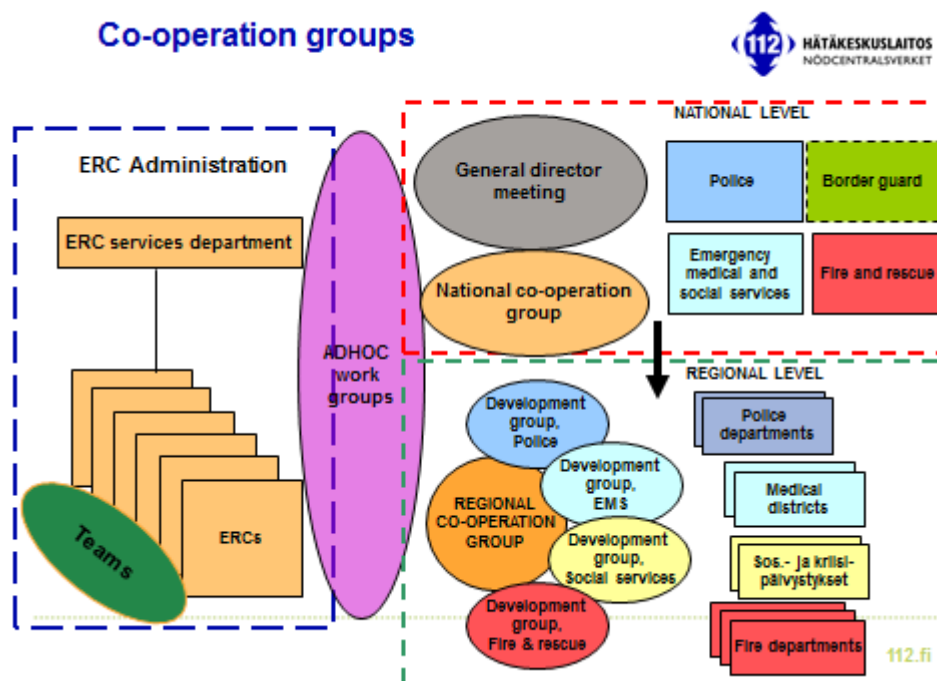
### 6.1 New co-operation models with different authorities

A key precondition for a successful structural reform was efficient cooperation between authorities, especially with branches steering the ERC Administration but also with other parties whose duties are closely linked to ERC operations.

This collaboration between authorities was also taken into consideration in the organizational structure of the ERC Administration, where an *Authorities Liaison Unit* was established in the ERC Services department.

In 2011, the Ministry of the Interior set up a *national cooperation group* for the ERC Administration to secure good collaboration between authorities at the nationwide level. This cooperation group includes representative from key collaboration parties, such as rescue services, police services, social and health services, and the Finnish Border Guard. The duty of the national cooperation group is to discuss national plans and instructions related to the branch of authorities taking part in ERC operations and to match them with one another before adoption into use.

A *regional cooperation group* and four *branch-specific development groups* (police, rescue, and social and health services) were established in the collaboration region of each new ERC approximately one year before operations were launched.



Picture 9: National and regional co-operation groups

The practical duties of the branch-specific development groups were to coordinate and match the operations of each branch at the ERC interface in their respective regions. These development groups have been used to cascade national operating models related to ERC operations and to monitor compliance with them in the region. The development groups have prepared special needs or proposals for development of ERC operations that have emerged in the relevant branch and submitted them for discussion in the cooperation group. During the structural reform process, in 2011 – 2014, a total of 350 meetings of the cooperation group and development group were held.

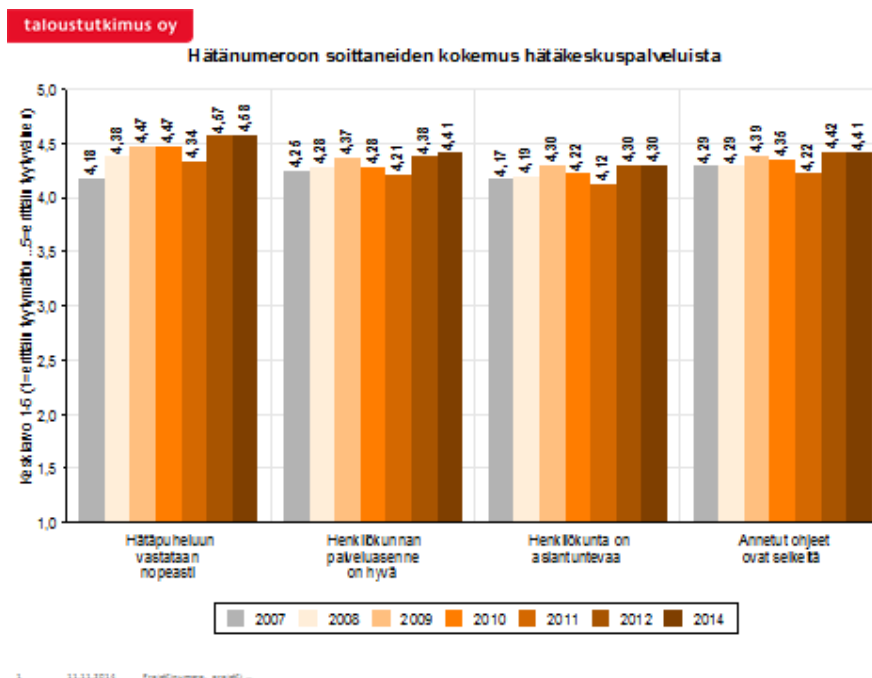
## 6.2 Satisfaction index before and after the renewal

The ERC Administration conducts a survey on satisfaction among co-operating authorities every other year, the most recent one in 2014. The implementation of the structural reform continued in the year under review, and special attention was paid to co-operation required by the mergers of the ERC in official duties. The satisfaction index produced by the survey sent to authorities is at a good level. All in all, it can be stated that co-operation between authorities is proceeding without problems.

Indicator	2011 realisatio n	2012 realisatio n	2014 realisatio n
Satisfaction index of the cooperating authorities (1-5), no less than (average)	3.32	3.22	3.34
- police	3.33	3.40	3.47
- rescue services	3.15	3.03	3.04
- health services	3.53	3.36	3.45

Table. The satisfaction index of different authorities during the renewal

The satisfaction of customers - the people that have called 112 - has been on a very high level for several years in a row and the renewal has not have a negative effect on that. In all four categories: response time, service attitude of personnel, professionalism of personnel and the clarity of advices that were given are a lot over 4 when the maximum is 5.



Picture 10: The customer satisfaction index 2007-2014





### 6.3 Publicity and communication

The extensive structural reform naturally evoked discussion among both ERC Administration employees and the agency's stakeholders. Also, the media were extremely interested in the progress of the reform especially in regions where ERC operations ceased.

A special module on change communications was planned immediately at the beginning of the structural reform, describing the key objectives and measures of change communications. Measures pertaining to change communications were planned as unified, such that all messages during the merger process are sent in accordance with the same principles and the same basic messages are relayed.

The list below includes communication measures that were regularly implemented throughout the change process:

- communication about the structural reform on the intranet and internet (112.fi website)
- information events for employees at all ERCs
- media bulletins on the commencement and end of co-determination procedures
- media events and bulletins upon the merger of the ERCs
- information events for management at all ERCs
- official cooperation days for field personnel in all ERC regions
- events for staff members both before and after a merger
- regular reports on the structural reform for agency management and the Ministry of the Interior
- networking and "benchmarking" with various stakeholders

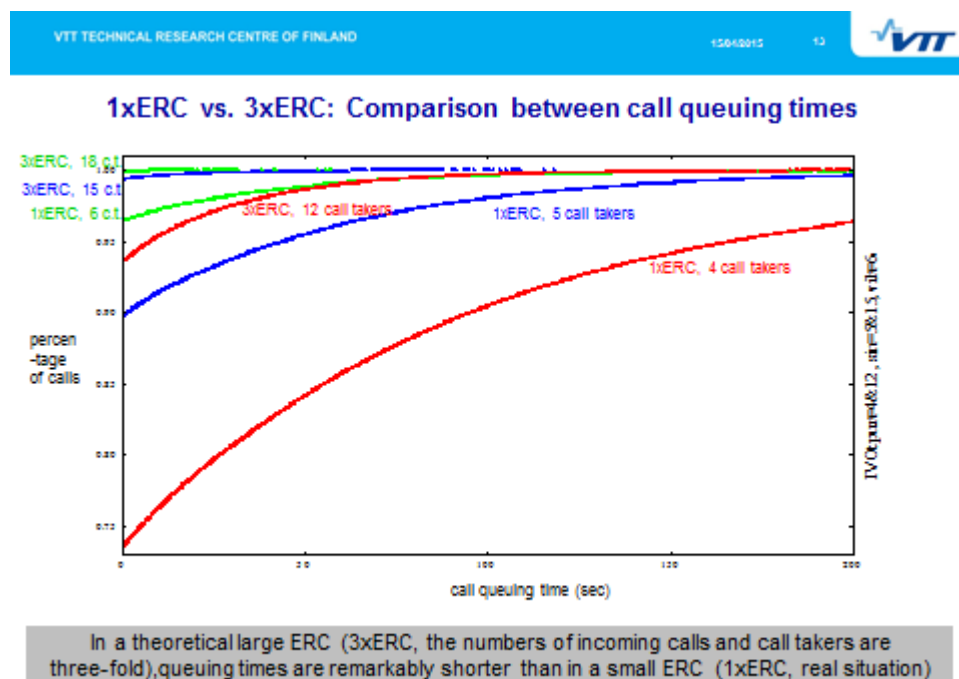
Media outlets closely monitored the implementation of the structural reform. Events held for the media attracted a lot of reporters, and the merger of the ERCs crossed the news threshold in all regions. News organisations were particularly interested in the abolishment of the ERC in the local region, retention of the service level, and the status of the employees.

## 7 OPERATIONAL DEVELOPMENT

### 7.1 Operational planning and planning the new ERC IT system in TOTI project

ERCA had started the planning of the future operational model of ERCs earlier together with police, fire and rescue, emergency medical services, emergency social services and Border Guard. All these authorities had full-time representatives in a separate TOTI project that started in Helsinki in 2008.

Before there were decisions about combining the ERCs to bigger units, there were lot of different analysis about future megatrends and other issues. Technical Research Centre of Finland (VTT) made a simulation with data from ERC IT systems about how the queuing times would be, if the call takers from three small centres were combined into a big one. The results showed that they would be remarkably shorter.



Picture 11: Example of results showing the economies of scale in bigger ERCs

There were also a lot of other productivity and effectiveness points of view in the development work such as:

- Networking:
  - ✓ Enables call overflow during congested periods without any special manoeuvres and thus prevents long call queues to occur
  - ✓ Improves the overall use of resources when the idle call taker resources from another centre can be used
  - ✓ Improves risk management in case of system failures, big incidents etc.
- Uniform operational models:
  - ✓ Improve the development of more effective processes and system architecture
  - ✓ Improve the results of training when local variations are minimal
  - ✓ Improve the use of resources over areas of operations when units are familiar with the process
  - ✓ Help not to waste resources in similar development work in many areas
  - ✓ Help in making clearer instructions

- Bigger operational units (ERCs)
  - ✓ Enable the role based work planning in the ERC room
  - ✓ Improve the dynamic division of the work and contribution of resources and thus the ability to control temporary rushes
  - ✓ Improve the ability to manage crises when the lack of one or two operators does not create immediate need for overtime work
- Features integrated into the system and automation:
  - ✓ Speed up the call handling without weakening the quality
  - ✓ Release resources for other work
- Optimised resource logistics features:
  - ✓ Improve the readiness of the units to meet the probable missions to occur
  - ✓ Make the use of resources more effective
- Integrated systems and common services:
  - ✓ Help in creating the centralized maintenance and thus save money
- Improved GIS data and common shared data:
  - ✓ Compensate the need for "local knowledge"
  - ✓ Make the use of the closest and most appropriate unit possible



Picture 12. Tasks of call-takers and dispatchers in the future remain the same

TOTI project produced the future operational model including the process charts in the ERC work as well as the requirements for the future ICT system and field operations system. The tendering process was also conducted by the project personnel and the contract for the new ERC IT system was signed in June 2011 with a Finnish company Insta DefSec Oy.

The overall goals of the operational and IT system development were to create a system where call overflow and network of centres enables better use of the resources of ERCs. Another goal was to improve the information flow from ERCs to field command systems and the overall situation awareness between different authorities managing the incidents. With remote use abilities different authorities are able to maintain their own data and can get other services without ERC contribution.

Uniform operating models are required to enable networked model. It means system integration of nationally approved risk assessment procedures. The regional differences are taken into account in detailed response planning and target-based specific guidelines. Overall improvements that we were looked for were geographic data properties (caller, units and route optimisation), information system usability, improved use of registers and documentation, new support service arrangements and optimised use of the nearest or otherwise the most appropriate unit.

## 7.2 ERICA ERC IT system

The new national ERC information system will be introduced in 2016 - 2017. At the moment, each ERC has its own independent information system.

The new ERC information system has been dubbed ERICA, an acronym of:

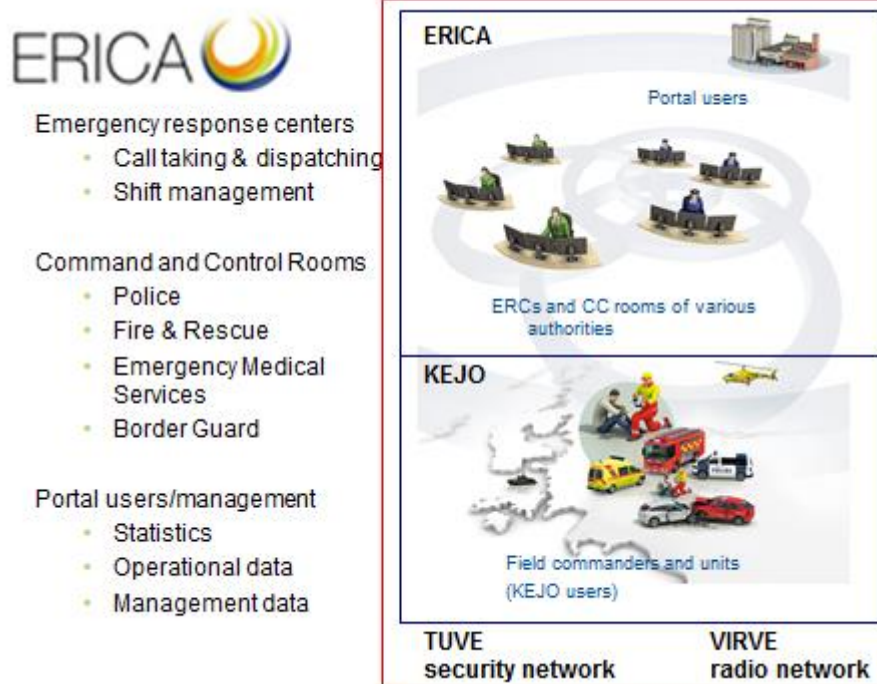
*E = Emergency*

*R = Response*

*I = Integrated*

*C = Common*

*A = Authorities*



Picture 13. ERICA, KEJO, VIRVE and TUVE form the overall system for authorities



The ultimate goal of the information system reform is to create a national information system shared by all parties involved in ERC operations (police, rescue services, social services, health care services and the Border Guard).

The new information system will route emergency calls nationwide. An emergency call will primarily be routed to the ERC closest to the caller, but if that ERC is overloaded or unable to answer for some other reason, the system will find a free ERC operator at another ERC.

The users of ERICA are emergency response centres that use it for call taking & dispatching, shift management etc. ERICA is also used in different command and control rooms of Police, Fire & Rescue, Emergency Medical Services and Border Guard.

The management level of different agencies can use it via the web-based portal for statistics, operational data and management data.

The overall ICT system includes also KEJO, which is used by the field commanders and different units. All these systems are using the security network TUVE and also the TETRA radio network called VIRVE. ERICA's backbone is the Insta Response product suite, which provides the users role-based integrated user interfaces for all functionalities required. The whole ERICA system is provided to the ERCA as a service (SaaS) by Insta.

All these new systems enhance the co-operation and possibilities to share data between all different agencies that are somehow related to the operation. ERC IT system plays a major role in this. It is a source of data not only for the "traditional" security authorities and their field command system, but also - when needed - share different data to other systems and organisations as well.



Picture 14. ERCA's role is significant in sharing the data to different stakeholders involved in the disaster risk reduction

## 8 Other operational changes affecting the ERC services

### 8.1 TETRA talk group renewal

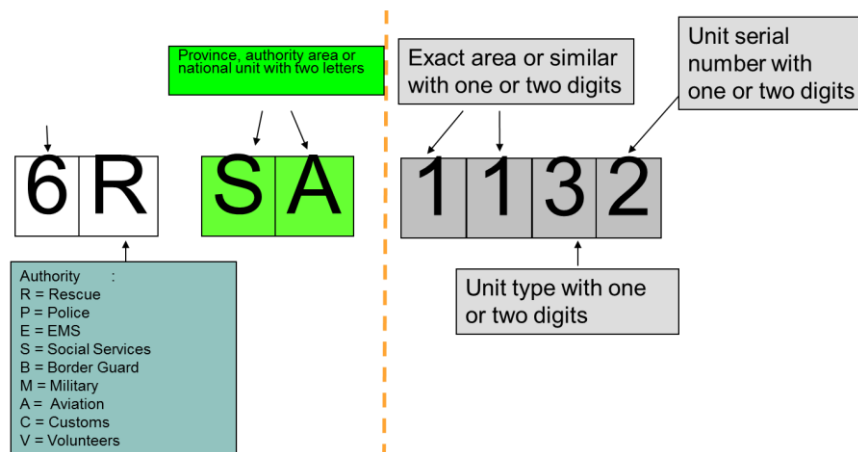
Number of talk groups was too big in new areas to handle in one dispatcher work station (DWS), so there was a need to decrease the number. ANTO talk groups (used for dispatching) and INFO talk groups (used for other communication between units and ERC) were used various ways. A new talk group model was made before combining ERCs.

### 8.2 Joint unit identification model of the authorities taking part in 112 activities

The identification models for units had been different and there were a lot of similar unit codes that creates risks for misunderstanding in a networked operational model. Uniform model was required for new IT systems (ERICA and field command system), because there can't be similar names in national database. Different authorities planned the model together and wanted to have a meaning for each letter or number.

The structure was: agency-area-station-unit number/type. Alongside the long code for the ICT systems there was a short code for radio communication.

### Joint unit identification model of the authorities taking part in 112 activities



Picture 15. Joint unit identification model in national ICT systems

### 8.3 KEJO

Alongside with ERICA there was established a mutual ICT project for Finnish safety authorities to acquire a field operations system. The project is called KEJO. The new system will be integrated into ERICA, also on the process-level.

The aim of this project is to develop and build cost effectively a mutual field operations system for the Finnish Police, Rescue services, Social and health services, Border Guard, Defence Forces and Customs. This project covers the preliminary study, cost-benefit analysis and also the procurement and introduction of the system. The goals of the mutual field operations system for Finnish safety authorities are:

- to enable an effective co-operation and construct a mutual situational awareness between different Finnish safety authorities
- to enable to put into service new working processes in the field , to make working processes more efficient and more reasonable and also reduce the time which is used to complete those processes.

## 9 The new Emergency Response Centre Administration - what was achieved via the reform

The Ministry of the Interior appointed an assessment group whose term began on 22 December 2011 and ended on 30 April 2013.

The assessment group monitored the ERC reform and its functionality. The group evaluated the operation of the new ERC in Oulu and the merger of operations of four ERCs in East and Southeast Finland with the Kuopio ERC.

Assessed on the whole, the implemented ERC reform has succeeded in improving the standard of ERC operations. The ERC reform has also resulted in the development of the entire chain of authorities, i.e. the rescue services, police services and social and health services, and the unification of operating models at the national level.

### 9.1 Improvement in operational results

Structural and operational development and harmonisation measures have improved the operational results of the ERC Administration in all collaboration regions compared with the time prior to the change. This has occurred despite the fact that change measures requiring a significant amount of personnel resources, such as training events and preparations of the ERC IT system, were carried out at the same time.

Answering time <10 seconds (%)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percentage	71 %	77	87 %	91 %	91 %	91	92 %	93 %	95 %

Answering time <30 seconds (%)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Percentage	83 %	89 %	95 %	96 %	96 %	94 %	97 %	96 %	98 %

Table. Trend in response times to emergency calls

The table below describes the number of key tasks of the ERC Administration and their trends in 2012-2014. The total number of emergency calls is in a slight decline. On the other hand, the number of tasks relayed has grown a little. An especially positive trend is that the number of non-emergency calls has decreased.

Indicator	2012 realisation	2013 realisation	2014 realisation
Number of emergency calls, pcs *)	4,137,000	4,050,000	3,890,000
- number of emergency telephone calls, pcs *)	3,021,000	2,886,000	2,811,000
- forwarded assignments, pcs	1,647,000	1,678,000	1,740,000
Non-emergency calls	976,000	900,000	770,000
- mistake or accidental call	815,000	760,000	650,000
- inappropriate or mischievous call	161,000	140,000	110,000
Others			
- non-urgent ambulance service	287,000	257,000	246,000
- patient transfer between care facilities	147,000	111,000	91,000
- advice	236,000	195,000	152,000
Number of emergency calls/inhabitant, pcs	0.77	0.75	0.72

Table. Number of emergency calls and distribution among authorities



## 9.2 Problems and challenges faced

As far as the ERC Administration's structural reform is concerned, it can be stated that new ERCs began their operation with sufficient resources.

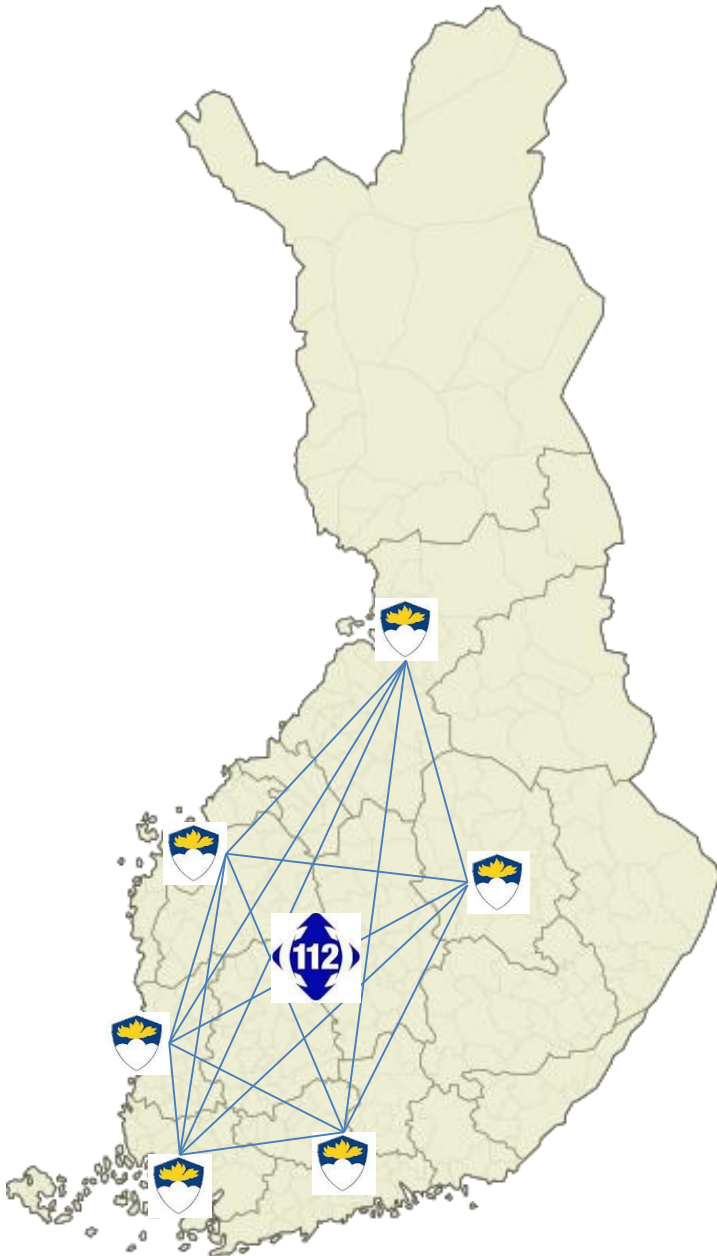
However, a risk relating to sufficiency of staff throughout the structural reform was that there was no reserve of trained ERC operators which would have guaranteed rapid reactions to variable recruitment needs. Throughout its history, the ERC Administration has had grave challenges in recruitment, and employee turnover is exceptionally high during the structural reform. In addition, there are significant regional differences in applications for ERC operator courses, and this is reflected in the number of applicants at various ERCs.

The heavy burden of the structural reform on employees has been identified and acknowledged. Learning new operating models and becoming familiar with an operational culture that is partly new have burdened staff members for a certain period of time.

In addition, the merger of ERCs has lengthened the commute of several employees, and this has naturally had an impact on coping at work and job satisfaction.



## 10 Changes in the operational environment and future operating model



Picture 16. The networked ERCA in the future

In April 2015 the structural renewal of ERCA is finished. However, networked operational model is still in the to-do list. The testing and training of ERICA ICT system is about to start and simultaneously starts the planning of other issues related to the ERC work as a network.

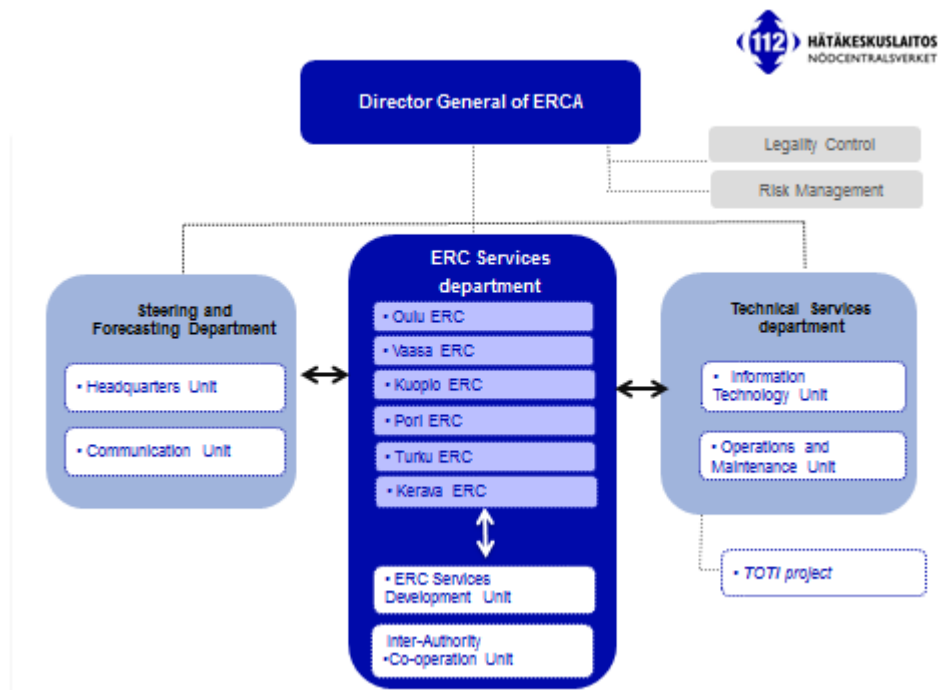
The future operating model is one virtual emergency response centre that operates in six different centres, as a network. This model requires the creation of a networked operating model and management arrangement. A need may also emerge for a separate command centre to coordinate the whole operation and produce a common operational picture for management purposes.

Implementation of such a networked operating environment is not just putting the new set of tools in place, but requires a great deal of cross-administrative development efforts as well as training events at various branches, and testing. A networked operating model is, first and foremost, an extensive change in culture requiring a lot of unification in the various branches (incl. communications traffic, use of units, and customer service).

During 2015 together with different agencies ERCA will produce national risk assessment guidelines and operational instructions for the usage of the system, which will require internal development work from those branches. This development calls for determined work and commitment from the various parties in the internal development of the branch in question.

ERCA's new strategy is also under work. There are a lot of challenges and unexpected events in the operational environment that call for continuous evaluation as well as proactive and reactive measures.

The organization has changed a little during the years and according to the resources available. At the moment the organization is on its way to the model below.



Picture 17. ERCA organization in 2015



## 11 Final analysis of the overall renewal work after the second phase of renewal 2007-2015

There were a list of different lessons learned after the first phase of the ERC renewal that were taken into account as much as possible during the second phase. The main lessons learned from the second phase of renewal were as follows:

- The strategic vision of all security authorities is needed. In this renewal the strategic goals for ERCA were set in co-operation with different agencies involved in ERC operations, but still during the renewal different agencies made their own regional divisions etc. only from their own point of view which has led to a complex entity. There has been talk about the networked system, uniform operational model and agencies own command and control rooms since 2007, but that has not led into action. A nationwide renewal requires stronger guidance and leadership.
- Separate projects (with full-time personnel) for executing different areas of the renewal were a good solution. However, the tasks, communication and co-operation between the basic organization and projects should have been better. This level of renewal affects everyone. The tasks between different parties have to be clear enough.
- The overall communication about the change was quite active, but never active enough. There are always a lot of rumors that can't be avoided as a whole, but can be decreased with facts. The chiefs of ERCs are the key change agents in their area of responsibility. Therefore in a renewal like this one it is one of the first tasks to select them and use them actively in communication as well.
- The input in the training was huge in this renewal, but it was one the critical success factors. A new large area and new instructions alongside other little details in the change mean that ERC operators are facing a lot of new things to learn.
- Basic training of ERC operators is a responsibility of ERC Services College. In a large renewal one has to be proactive in estimating the future need of workforce together with the customer - ERCA. There should be a capability to adapt the training to different situations and requirements (i.e. Swedish speaking skills) quite rapidly. ERCA should have a stronger role in guidance of the basic training of ERC operators so that it is in line with strategy about ERC services and takes into account the influences of the renewal or other changes that are foreseen. It should also have more flexibility to react on sudden loss of personnel on certain area or to the needs for language skills to secure the services in both national languages.
- The Bachelor in Policing studies do not include practically anything about the work of an ERC operator. Therefore ERCA has to give a comprehensive familiarization training of 10 weeks, which requires a lot of resources in ERCs all the time. All the training programs that give a formal competence to work as an ERC operator should include a real training for that task or otherwise the resources required for the familiarization training should be taken into account in the budget of ERCA.
- The overall coordination of ICT development issues is a critical issue. During the ERICA ICT system development ERCA is facing new challenges all the time that emerge from for example the TUVE security network and the ongoing changes in public sector's ICT services. There are other ICT projects that have a direct influence on ERICA ICT system development and therefore the schedules of different projects should have been in line together and under a stronger overall coordination. The lack of coordination causes remarkable economic risks and risks of delays. ICT should be understood as a tool for operative organizations - not the end in itself. ICT policies should create solutions rather than problems for the user organizations executing their daily services for the society. Public ICT organizations must commit to their duties and deadlines in different projects.



## 12 ANNEX 1. Events and tasks during the years of reform

### Year 2010

- ERC of Helsinki relocated to Kerava.
- The agency's operating strategy for 2015 was completed.
- On 21 January 2010 the Government decided that Finland would be divided into six ERC regions.
- The strategic change and development project called HAKMU was launched to plan a new management and administration model, to merge and unify operations of the ERC Administration, and to reduce the number of ERCs.
- An electronic tool called MORA, which combines risk assessment instructions in different branches, was developed to support the operations of the ERC Administration.
- The second phase of the TOTI project was initiated to start competitive bidding for a new information system, specify a field management system shared by several authorities, and to describe the operational models of ERCs.
- Change discussions with staff members were started.
- Competence requirements for ERC operators, senior ERC operators and shift supervisors were prepared in line with the new job descriptions.
- A personnel strategy was drawn up to provide support for the change in progress.

### Year 2011

- The new Act on Emergency Response Centre Operations and the Government Decree on the Operation of Emergency Response Centres entered into force.
- The new operating rules and organisation were confirmed, and the agency's operational models were changed such that they comply with the new legislation and serve and promote the achievement of the strategic goals set. A Legal Compliance Unit was established in the ERC Administration.
- The delivery contract of the new ERC IT system was signed with Insta DefSec Oy. The delivery phase of the ERC IT system was launched.
- The ERC in Oulu began operation with the merger of the ERCs in North Ostrobothnia and Kainuu.
- The first new regional cooperation groups and branch-specific development groups were established in the ERCs' collaboration regions. One duty of these groups is to cascade national operating models to the ERCs' collaboration regions and bring proposals from the regions to the national level.
- Operative ERC room instructions were adopted to harmonise the operating models of the ERCs.
- The new official unit ID model was taken in use.
- The use of VIRVE talk groups among all authorities participating in ERC operations was reformed to unify and develop such operations.
- The Ministry of the Interior decided that the location of the ERC in East and Southeast Finland would be Kuopio, and that the ERC in Southeast Finland would be abolished at the end of 2012, at the latest.
- The HAKMU project was closed down, and its tasks were transferred to the basic organisation.



## Year 2012

- The operation of the Kuopio ERC began with the merger of the ERCs in North Karelia, South Savo, North Savo and Southeast Finland.
- Internal operations control at the ERC Administration was developed and unified among the various departments.
- A competition was held to determine the name for the new ERC IT system, and the name chosen was ERICA.
- On 1 September 2012, a fixed-term change management unit was set up at the Steering and Forecasting Department of the ERC Administration, whose mission is to steer and coordinate the overall planning of the structural change.

## Year 2013

- Operation of the Pori ERC began with the merger of the ERCs in Pirkanmaa and Satakunta.
- The Kerava ERC began partial operation with the merger of the ERCs in Helsinki and Eastern and Central Uusimaa.
- The European Emergency Number Association (EENA) rewarded the ERC Administration for its efforts towards efficient ERC operations.
- Risk assessment efforts were unified.
- New regional cooperation groups and branch-specific development groups were in operation in all the ERC collaboration regions.
- The working group discussing the future operating model and structure for administrative and support functions at the ERC Administration concluded its work. An implementation plan to develop operations was drawn up on the basis of the working group's final report.

## Year 2014

- Full-scale operation of the Kerava ERC began with the merger of the ERC in West Uusimaa.
- Operation of the Turku ERC began with the merger of the ERCs in Southwest Finland and Häme.
- Updates on risk assessment instructions were delivered by social services, emergency medical care services and the police.
- The European Emergency Number Association (EENA) rewarded the ERC Administration for the efficient cooperation between it and the police.
- A smartphone application called Smart Locator was taken into use to facilitate finding people in distress, especially persons who have become lost.



### **13 ANNEX 2. Structural reform in numbers**

Methodical and far-reaching work was carried out in many different sections of the implementation of the structural reform in 2010-2014. The text below contains some individual figures describing the scope of the structural reform:

- the change impacted a total of 322 permanent officials,
- 156 people relocated to a new working area,
- 109 persons were dismissed,
- 12 people were transferred to advisory services for citizens (Kouvola),
- approximately 20 employees were transferred to other agencies,
- six people returned to the agency through a redeployment obligation,
- seven people have returned to the agency via a re-hiring obligation,
- 74 people retired during the structural reform,
- 345 visits were made,
- 55 different information events were held,
- a total of 16 events providing coaching on job applications were arranged for dismissed employees,
- 735 personal change discussions were held,
- 250 training days were arranged (operative personnel), with a total of 496 participants and 19,464 hours of training,
- a total of 350 meetings of the cooperation group and development group were held,
- 20 media events were arranged, and
- more than 50 media bulletins were sent out.



#### 14 ANNEX 3. Development of real estate costs

Year	Real estate costs M€
2006	4,18
2007	5,14
2008	5,49
2009	5,69
2010	6,07
2011	5,75
2012	5,68
2013	6,32
2014	4,96
2015	3,77

#### 15 ANNEX 4. Development of personnel and HR costs

Year	Budget M€	Manyears	Salary costs
2006	47,60	---	35,97
2007	47,99	745	38,46
2008	55,59	733	39,06
2009	54,17	738	40,66
2010	56,27	742	41,43
2011	59,37	750	43,63
2012	59,48	746	42,39
2013	64,46	684	39,74
2014	66,01	670	40,07
2015	55,59	648	
2016	48,47	552	
2017	48,03	546	
2018	47,60	535	

For additional information please visit:

[www.112.fi](http://www.112.fi)

<https://www.youtube.com/user/hatakeskuslaitos>



