

A photograph of an emergency scene at night. In the foreground, a man in a blue uniform and cap walks towards the camera. In the background, several firefighters in orange and yellow gear are working around two overturned cars on a wet road. A red fire truck is visible on the left. The scene is illuminated by emergency lights, and the background shows a line of trees under a dark sky.

# VIRVE SAVES LIVES IN NORTH KARELIA

**Jari Hirvonen**

**Joint Municipal Authority for  
Medical and Social Services in  
North Karelia / Primary care**

**VIRVE responsible**

**Jari.Hirvonen@PKSSK.fi**



# Framework for primary care

---

Joint municipal authority:

- 173,000 inhabitants
- 17 municipalities
- 15 health centres
  
- 19 ambulance units  
(capability for immediate dispatch)

# Visits by specialty in 2009

---

○ Surgery	9,910
○ Internal medicine	8,889
○ Neurology	3,458
○ Paediatrics	1,148
○ Pulmonary medicine	1,109
○ Otology	630
○ Others (eye, mouth, psychiatry)	101
○ Basic health care	4,325
○ total	29,570

# Patients by priority

---

## By TRIAGE classification

- A immediate 6%
- B 30min 20%
- C 2 hours 62%
- D 3 hours 12%

## Situation in 2008


---

- 30 terminals, 1 in use
- Problems with internal GSM network
- Plan:
  - devices as part of day-to-day communications
  - ease of use
  - should clearly facilitate operations
  - each user should receive training

# Situation today

---

- around 580 users / 53 terminals
- Benefits outweigh disadvantages
- Easier and more versatile than GSM in daily use!  
(e.g. Tetrabook software)
- Speeds up day-to-day operations  
(calling someone to take a lab sample, difference compared to GSM -500 hours/year)
- Improved security for users



	users	terminals
Emergency care	60	8 (14)
Laboratory	80	3
X-ray	50	2
Surgical ward	100	2
ICU	30	1
Pharmacy	15	2
Technical	50	4
Security services	20	3
Physicians	130	7
Management	4	4
Psychiatry	20	2
Endoscopy unit	40	2



# Preparedness

---

- **Emergency Powers Act:** performance of duties with the least amount of disruption in all security situations and emergency conditions
- **Ministry of the Interior guidelines**
- **State provincial office regulations** (regional state administrative agency)

# Regional State Administrative Agency for Eastern Finland guidelines 2005:

---

In health care VIRVE  
terminals must be used by:

- Emergency care services
- The physician-in-charge
- Health care emergency units



# Cooperation among authorities

---

- Emergency Response Centre
- Ambulance services
- Medical helicopter
- Rescue department
- Border Guard
- Police
- Health centres
- Hospitals
- Social services
- Defence Forces

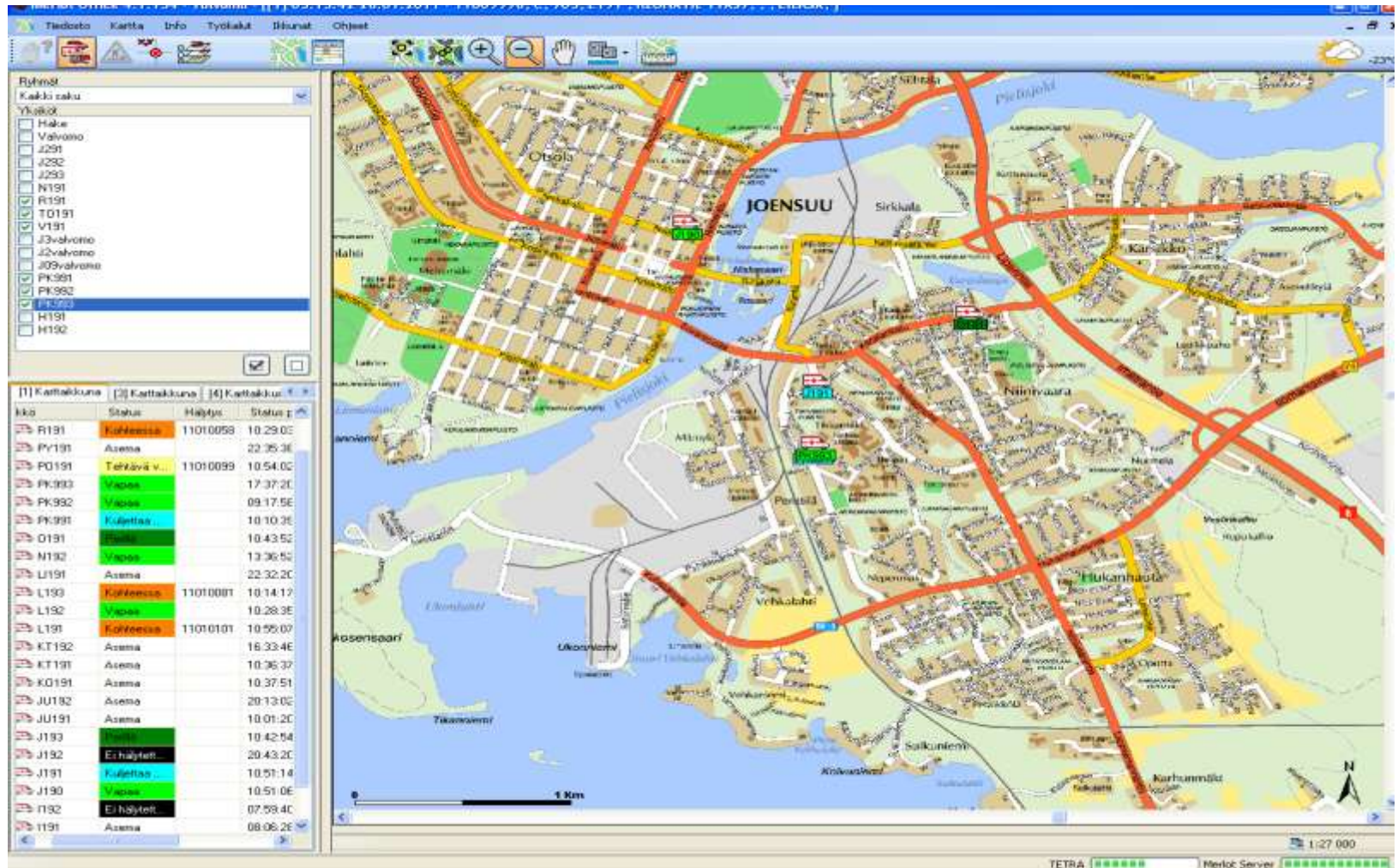


# Properties currently exploited

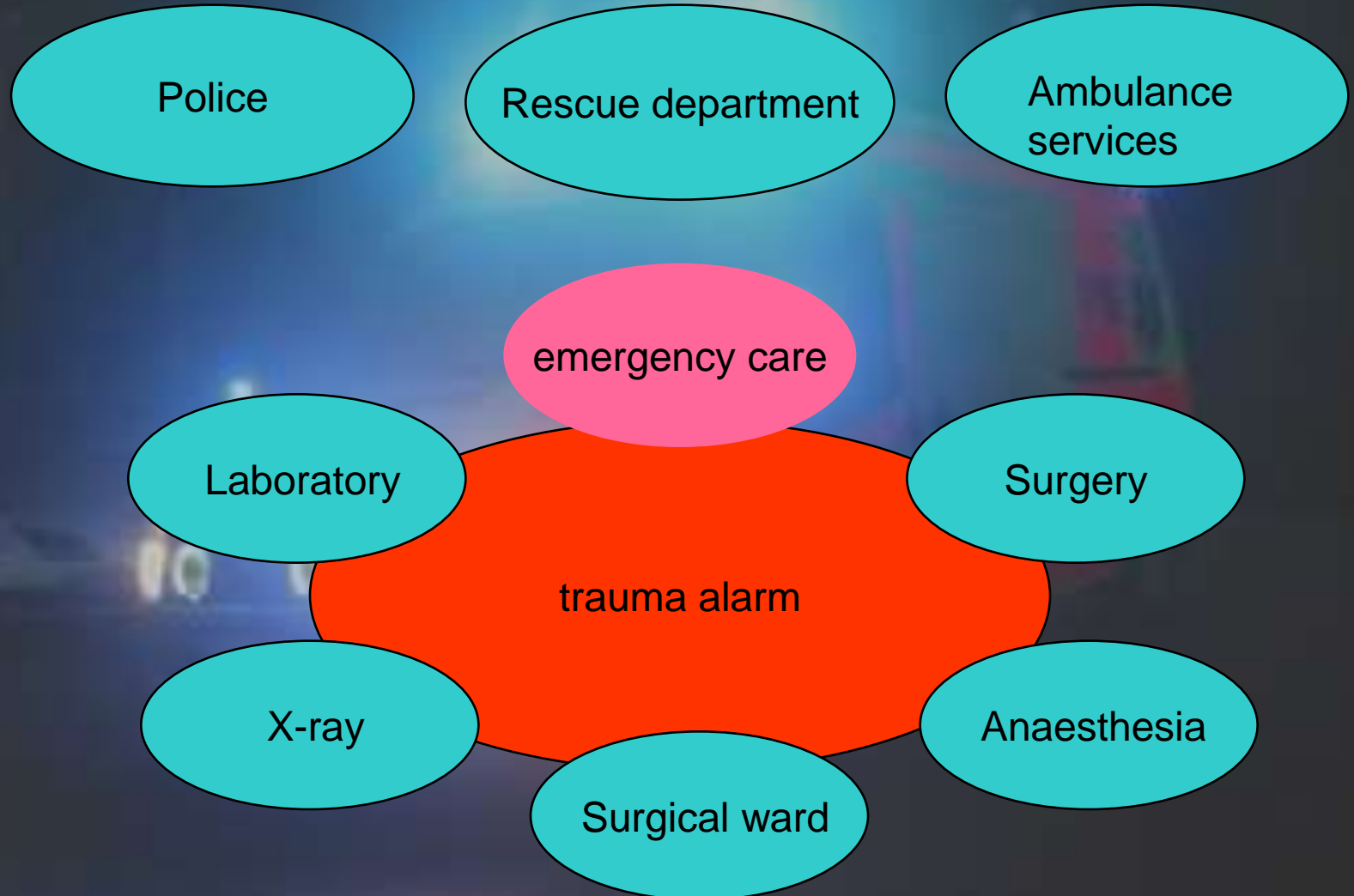
---

- Group calls
- Alarm calls
- Text messages
- SMS
- Direct calls
- Data

# Merlot positioning system



# EMERGENCY RESPONSE CENTRE





# Advantages of the Trauma call group

---

- Priority 1. bypasses others
- Automatically connects to external speaker
- Gives 10-15 minutes of time for preparation
- Preliminary information to all actors as a single package:  
when, how many, injuries, vitals
- Real-time information to all
- No calls required in activities
- Faster treatment  
(Emergency surgical operations 20-30min)



# Future

---

A clear need exists, but how do we ensure:

- Increased communication?
- Harmonised training?
- Exercises?
- Persons in charge?
- Daily support?



# Future

---

## Opportunities

- Monitoring of vital functions from the field in real time (e.g. EKG)
- Imagery from the scene will provide an improved situation overview of accidents
- Improved communications security

Thank you!

Questions?

