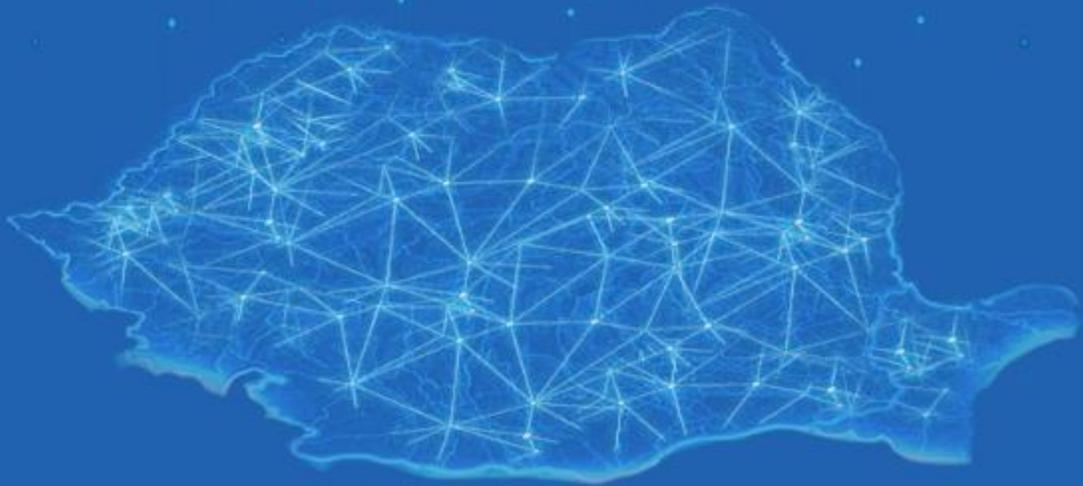




EMERGENCY COMMUNICATIONS REFORMS IN ROMANIA



FLORIN FETICU

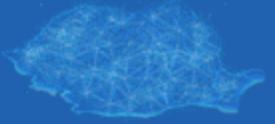
Head of the 112 System

DANIEL RAȚĂ

Technical Department Coordinator



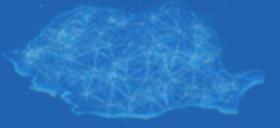
AGENDA



- BASIC INFORMATION**
- OVERVIEW OF THE CURRENT ROMANIAN 112 SYSTEM**
- HW&SW MODERNIZATION PROJECT OF THE 112 SYSTEM**
- REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA**
- OTHER PLANNED REFORMS/PROJECTS**



BASIC INFORMATION



**SPECIAL
TELECOMMUNICATIONS
SERVICE
STS**



19.53 Million



238,397 km²



GEO 34/2008

regarding the organization and functioning of the Single national emergency call system

Government Decision 682/2009

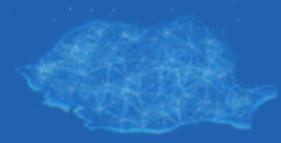
concerning the National Coordination Committee of the functioning of the Emergency Call System 112

Decision 1023/2008

of the president ANCOM



CURRENT OVERVIEW



112 MODEL (MODEL 3)

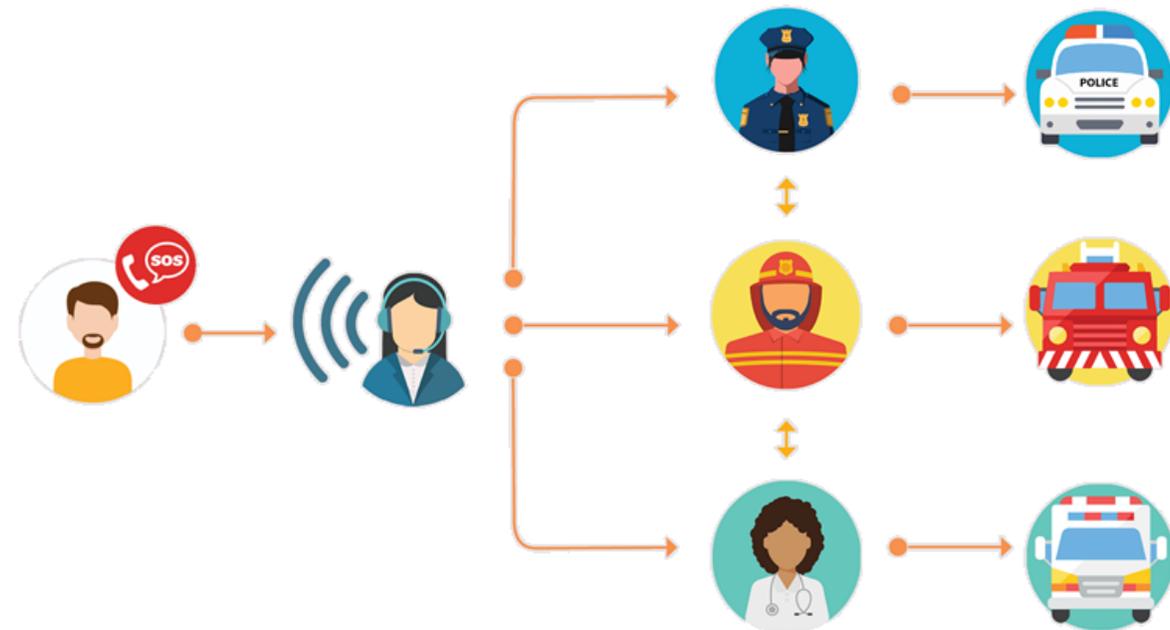
ONLY ONE emergency number **112**

Stage 1 PSAP - operated by STS

- receives all emergency calls
- gathers info about the incident, location, victims and caller
- classifies the incident
- transfers the caller and gathered data to all appropriate Stage 2 PSAPs

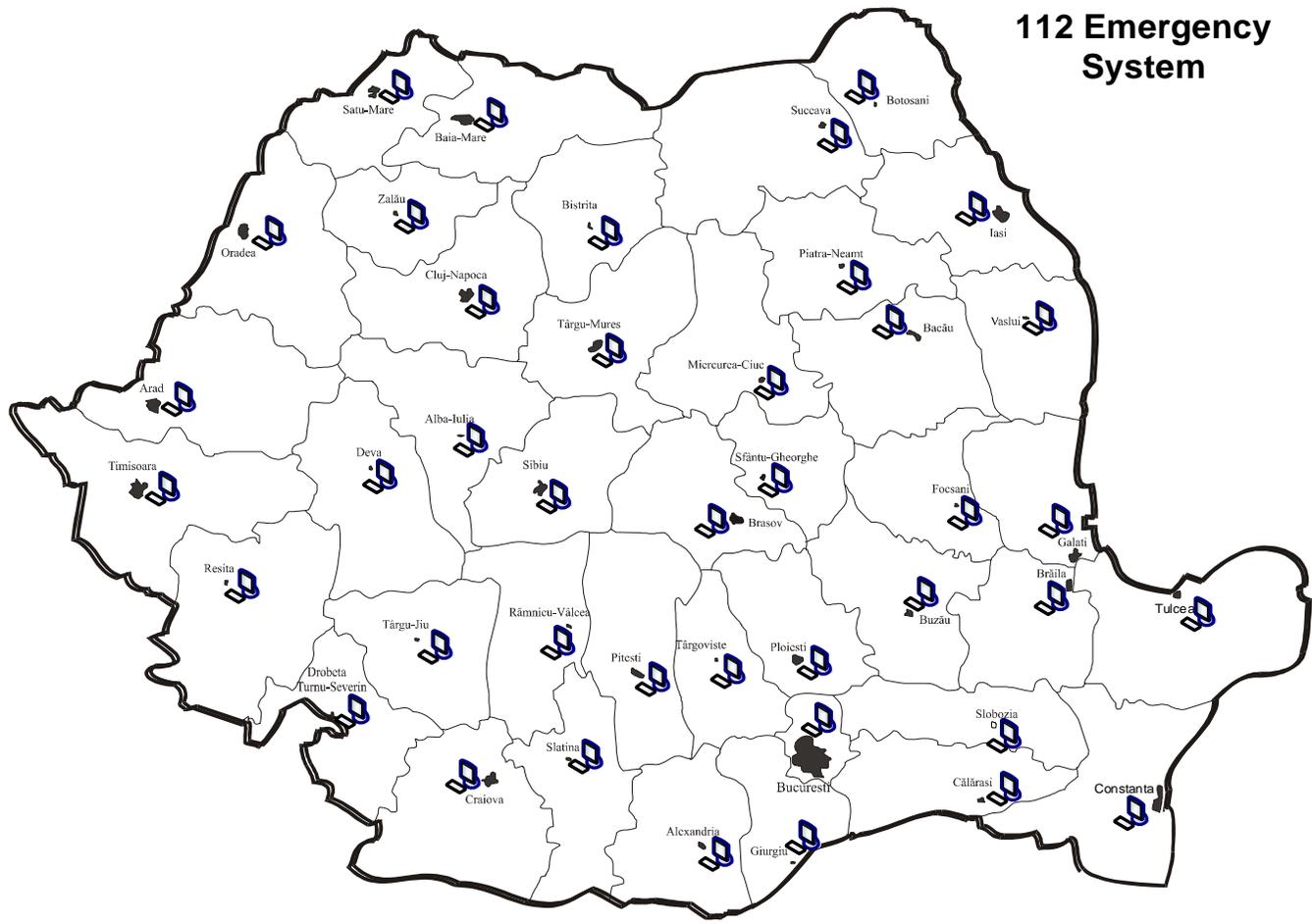
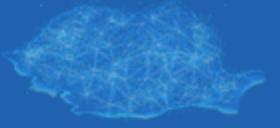
Stage 2 PSAPs - same software platform

- receives calls transferred from Stage1 PSAP
- receives all data collected by Stage1 PSAP
- gathers specific info about the incident and victims
- assigns the most appropriate resources





CURRENT OVERVIEW



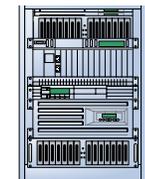
41 interconnected CADs

- 1 Stage1 PSAP per county
- 4 Stage2 PSAPs per county (Police, Gendarmerie, Ambulance, Firebrigade-SMURD)
- 11 Stage2 PSAP for other agencies
- 2 Training Centers
- 2 back-up callcenters for disaster scenarios

SERVERS

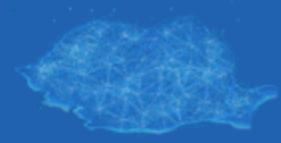
**VOICE
DATABASE
APPLICATION**

**GIS
DC
PABX**





SYSTEM COMPONENTS



41 interconnected CAD systems



Same 112 software and GIS



Centralized LIS



Centralized AVLS



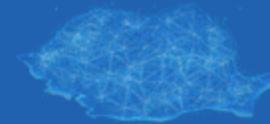
Centralized ANI



Multilingual service



SYSTEM COMPONENTS



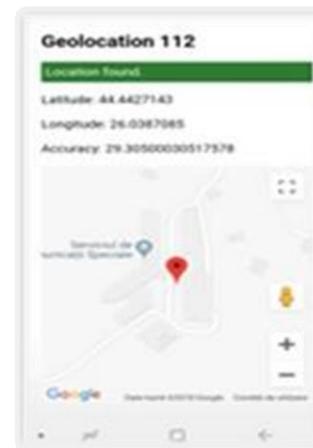
Accessibility for persons with disabilities



Mobile App *Apel112*



eCall Platform



Geolocation



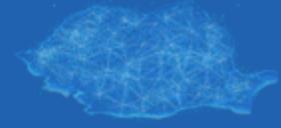
AML



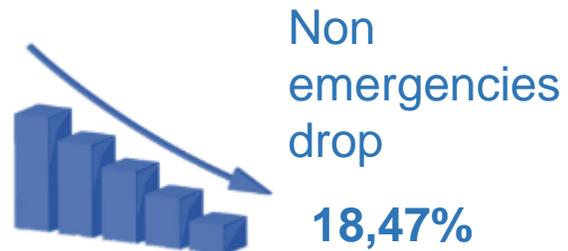
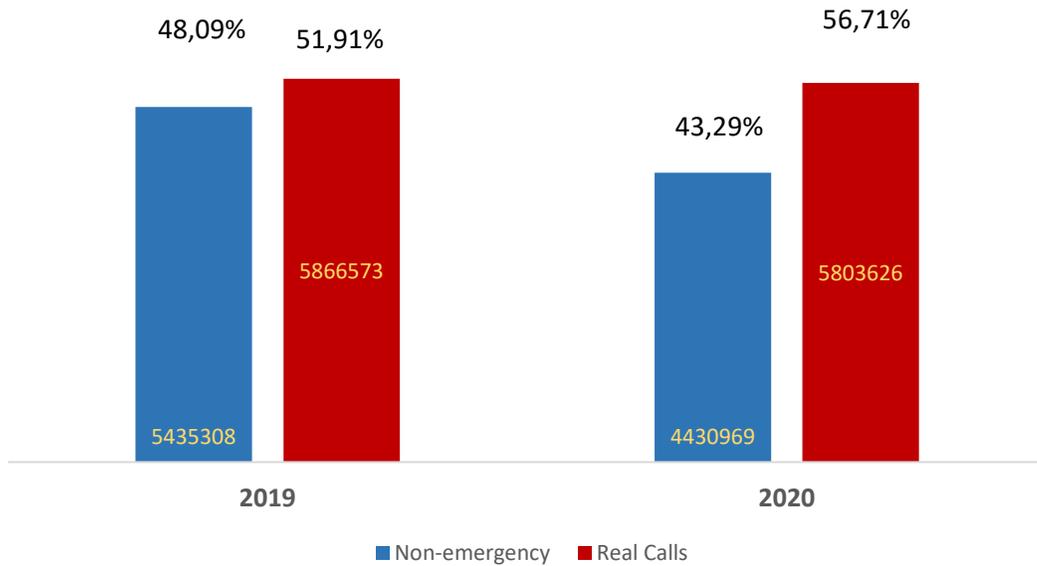
VoWi-Fi



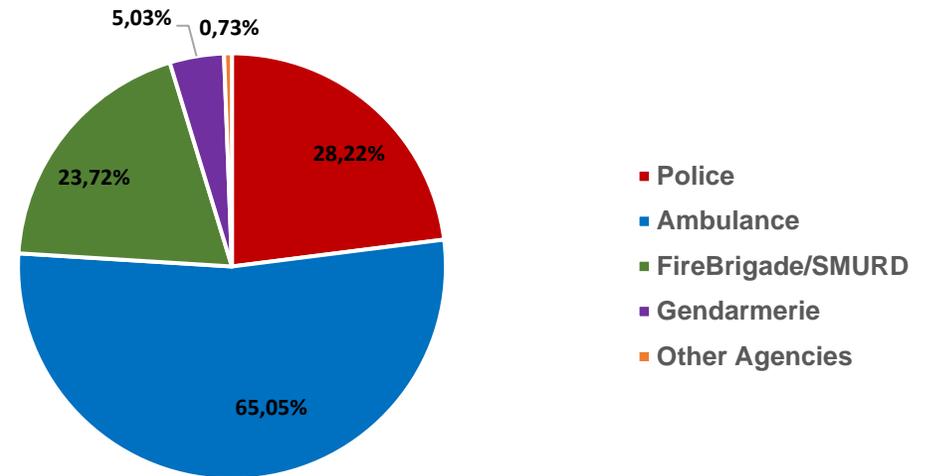
112 IN FIGURES



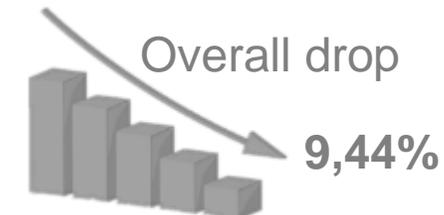
2019 vs 2020



CALL DISTRIBUTION PER AGENCY



Total Calls **10.234.595**



HW&SW MODERNIZATION PROJECT OF THE 112 SYSTEM

Objectives

-  HW&SW UPGRADE
-  HIGHER INTEROPERABILITY
-  CALLS&DATA FROM HETEROGENEOUS ENVIRONMENTS
-  SMART CALL ROUTING AND ESCALATION

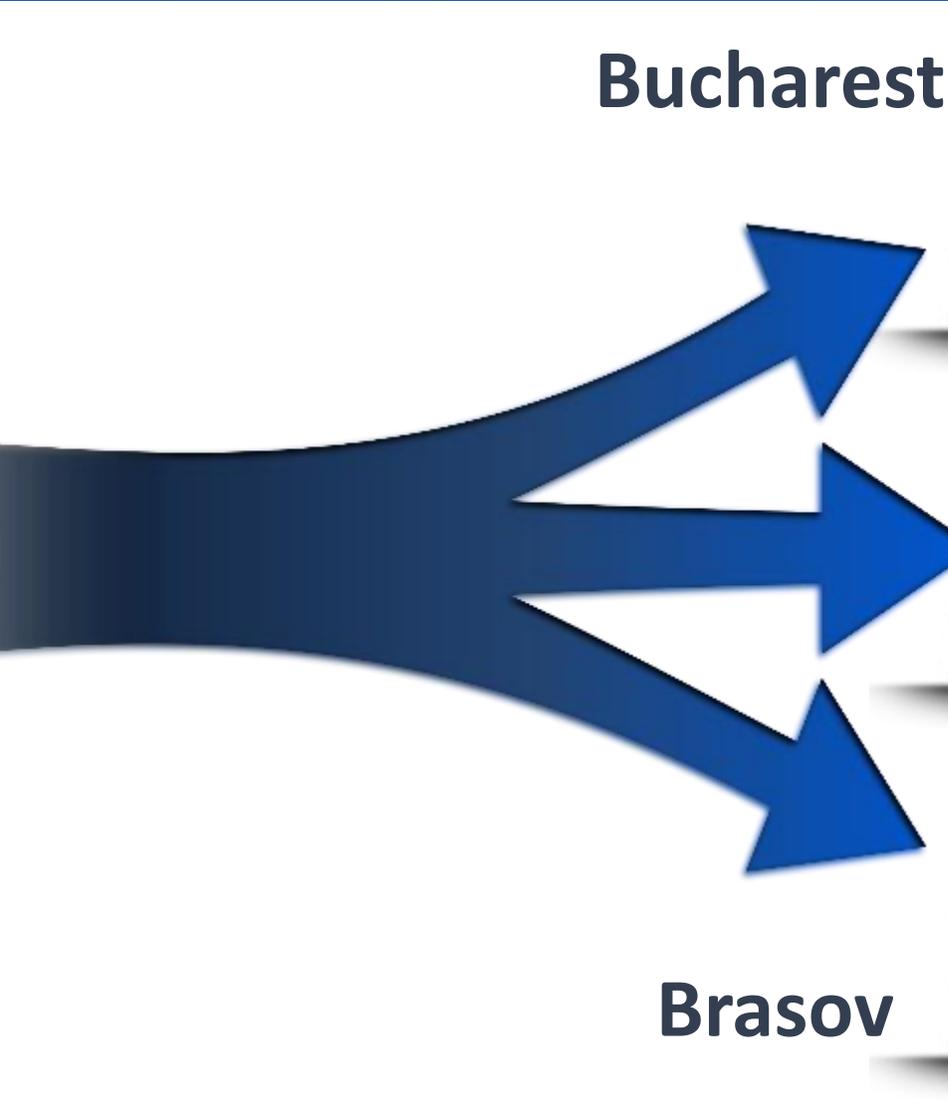
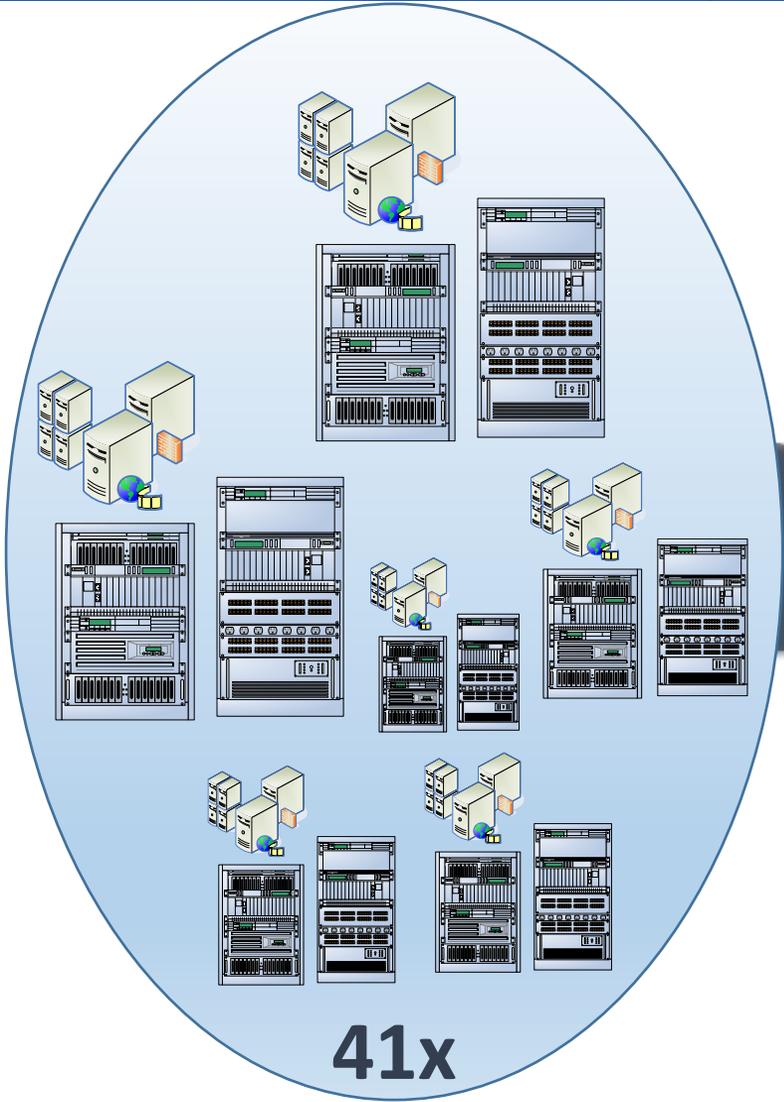
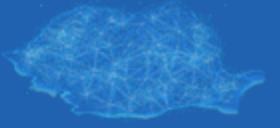
-  IMPROVE LOCATION
-  EXTENDED ACCESSIBILITY
-  ENRICHED CASE INFORMATION
-  REAL TIME PERFORMANCE REPORTING

 **INCREASE EFFICIENCY**

 **REDUCE EMERGENCY MANAGEMENT TIME**



HW&SW MODERNIZATION PROJECT OF THE 112 SYSTEM



Bucharest



VOICE BACKUP SYSTEM

Sibiu



Brasov



VOICE BACKUP SYSTEM



HW&SW MODERNIZATION PROJECT OF THE 112 SYSTEM



MAJOR COMPONENTS



CAD



LIS



GIS



ARLS



VOICE BACKUP



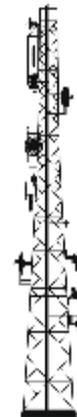
Dedicated interfaces



Power Supply and AC Systems



Dedicated Network components



TETRA communication integration



PEMEA



logging monitoring auditing backup and security storage and archiving

HW&SW MODERNIZATION PROJECT OF THE 112 SYSTEM

✓ TO IMPLEMENT NEXT GENERATION 112

✓ CALL OVERFLOW

✓ SWITCH FROM ISDN TO SIP

✓ INTELLIGENT CALL ROUTING ON MULTIPLE LEVELS

✓ MISSION CRITICAL HARDWARE SOLUTIONS

✓ SMART IVR

✓ VIRTUALIZED ENVIRONMENT

✓ IMPROVED DYNAMIC INTERVIEW GUIDE

✓ HARDWARE AND SOFTWARE INDEPENDENT

✓ ZERO INSTALLATION CLIENTS- USE OF TABLETS

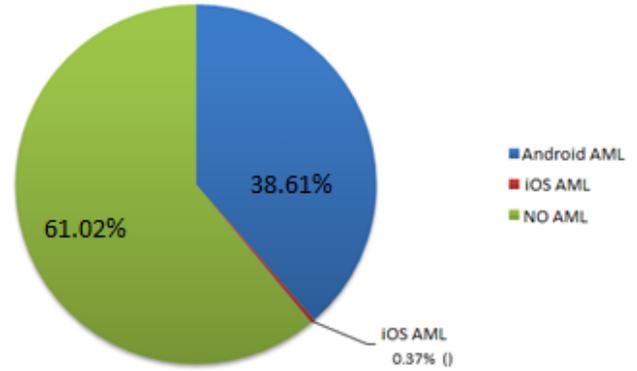
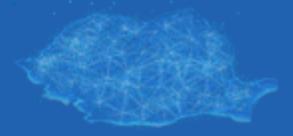
✓ STANDARDIZED INTEGRATION VIA ESB

✓ VDI

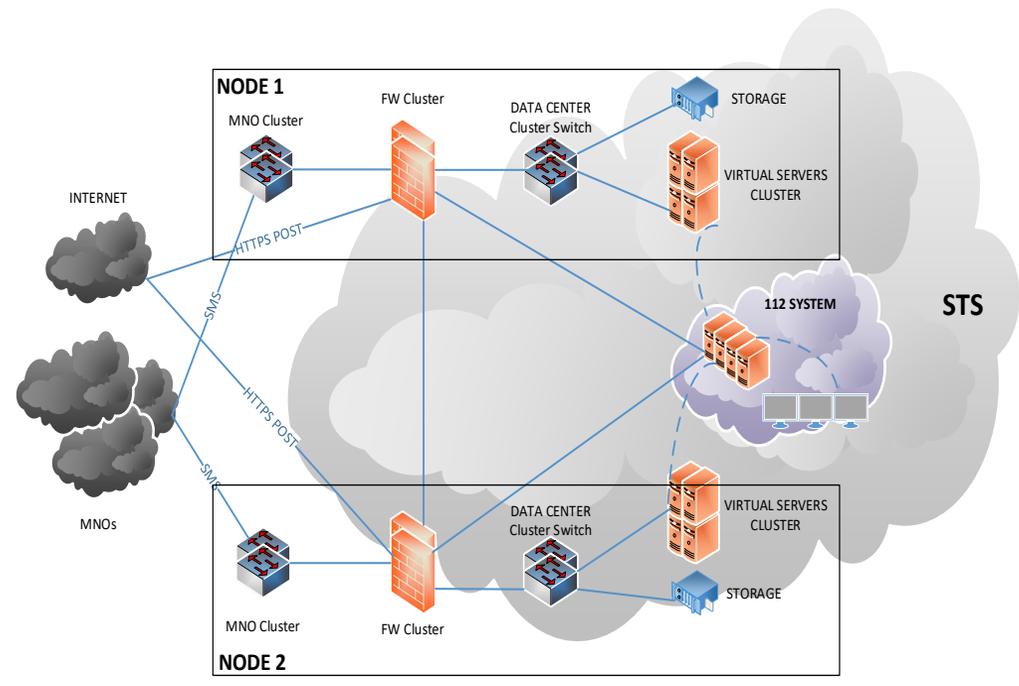
✓ BUSINESS INTELLIGENCE SOLUTIONS



REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA



Time of arrival **<15 sec** for 80% SMS and 92% HTTPS
 Accuracy **<50m** for ~ 80% messages



Dedicated centralized infrastructure
Geo-redundancy and High Availability

SMS and HTTPS

for **calls to 112** and **SMS to 113**
 No roaming support, yet

AML DEPLOYMENT

Official launch: **1st of April 2020**
 AML for { **38.98%** of all mobile calls
54.71% of real emergencies
20.42% of non-emergencies

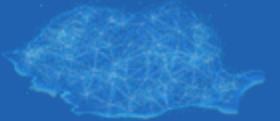
Other handset derived location solutions

- HTML5 Geolocation
- Mobile app *Apel 112*
- Whatsapp share location

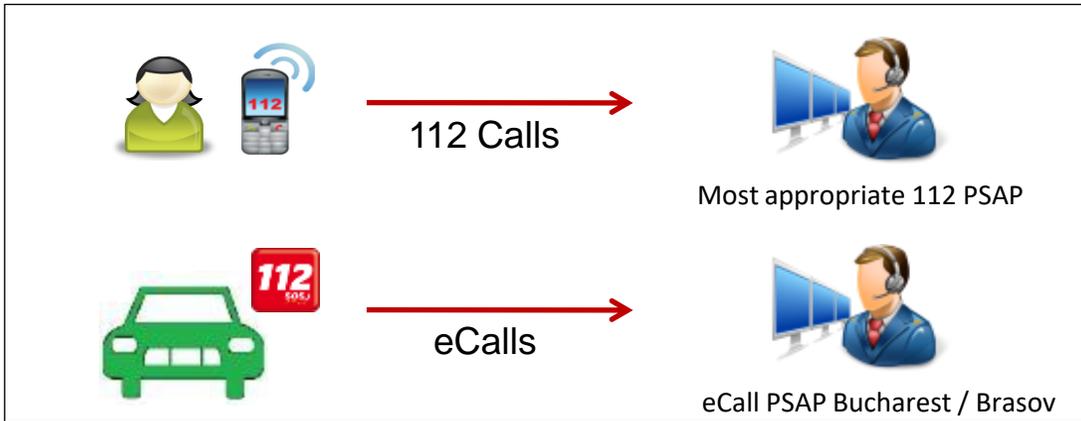
Future plans

- >AML in roaming
- >enhanced network location

REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA

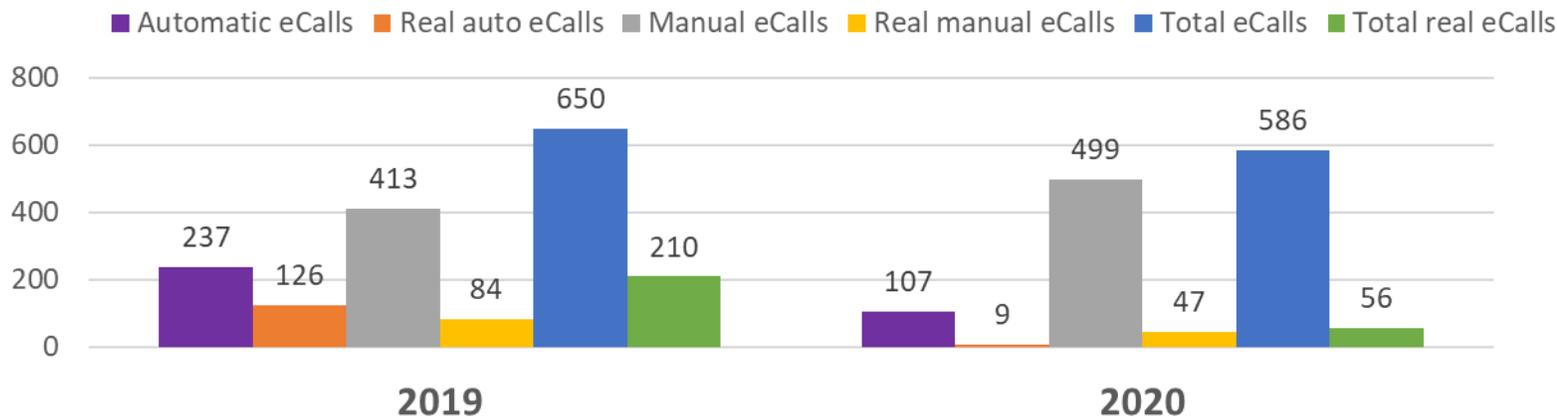


eCall



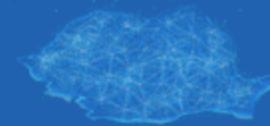
eCall Model

- ✓ Implementation in the existing 112 system since 2011.
- ✓ eCall model is centralized/georedundant - all eCalls are routed based on eCall flag to Bucharest PSAP or to the backup PSAP located in Brasov.
- ✓ The emergencies are transferred to the county emergency agencies that are responsible in the incident area.



- ✓ **TPSP-** custom interface based on CAP v1.2 protocol

REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA



PUBLIC WARNING SYSTEM



Cell Broadcast



extreme weather events



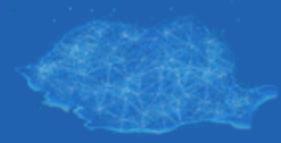
threatening floods



terrorist attacks



REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA



TRANSNATIONAL EMERGENCY CALLS



2 long numbers for **Bucharest** PSAP and **one** for a backup callcenter in **Bacau**



FUTURE PLANS

Solution for PSAP calling from abroad, without costs for the caller

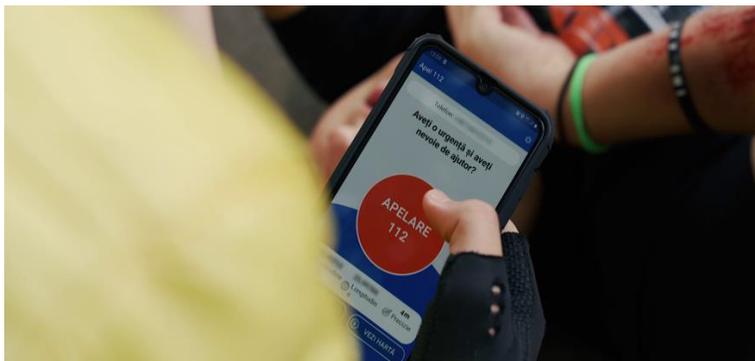
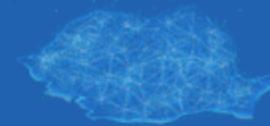
ACCESSIBILITY FOR PEOPLE WITH DISABILITIES



Optional Registration
Improve *Apel 112* to fit the PEMEA environment
Foreign language
User medical profile
Use pictograms to communicate
Total Conversation



REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA



Descarcă gratuit aplicația
APEL 112

Aplicația Apel 112
este dezvoltată de Serviciul de Telecomunicații Speciale.



PROMOTING 112

Raising awareness on the right way to use the emergency number



Number of false calls and abusive callers



Significant changes within the legal framework



Promoting the use of **APEL 112** mobile app



REFORM OF EMERGENCY COMMUNICATIONS IN ROMANIA



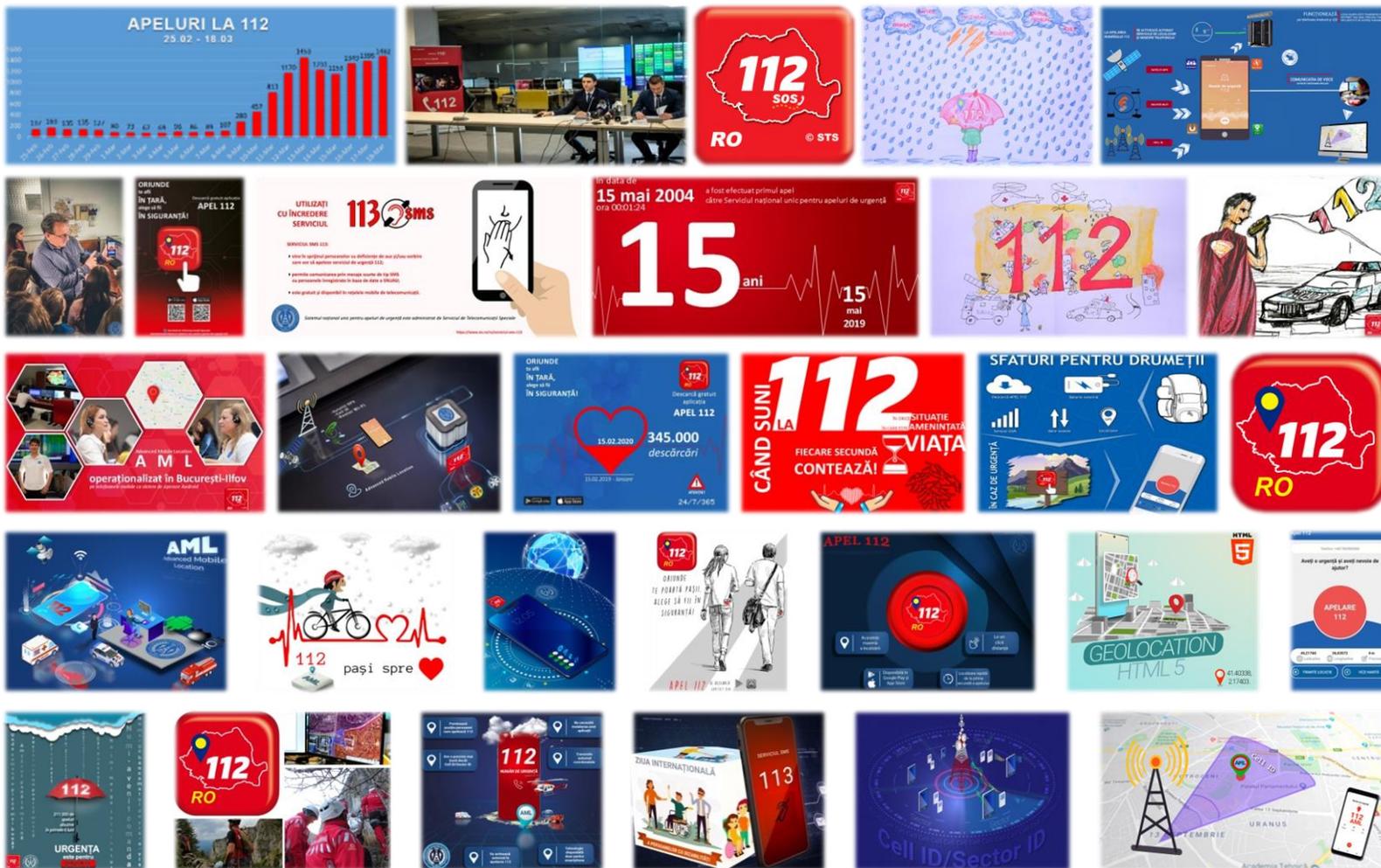
PROMOTING 112

112 CALL TAKER
SUCCESSION STORIES

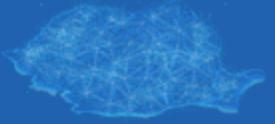
CHILDREN EDUCATION
CAMPAIGNS

OPEN-GATES DAYS

ENHANCED MOBILE
LOCATION SUCCESS
STORIES



OTHER PLANNED REFORMS/PROJECTS



FUTURE PLANS



**AML 2.0
Enhanced location**



Enhanced Cell-Id



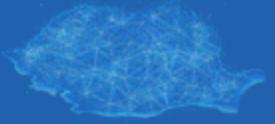
AI Speech-to-Text



DRONES



PSAP calling from abroad



Thank you for your attention!



HONOR

LOYALTY

PERFORMANCE

PROFESSIONALISM

CONTACT

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