Resilience management guidelines and Operationalization applied to Urban Transport Environment

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Main Outcomes

- **European Resilience Management Guidelines** – (guidelines) – consensus driven approach improve guidelines acceptability at EU level
  - general version, and UTS version
- **CRAMSS** – (tools and algorithms) – ontology based static and dynamic CI data integration, processing and analysing platform
- **Mobile Emergency app** – (tools and procedures) – supporting users in their local decision before (early warnings), during and after an event
- **Game based training app** – (tools and procedures) – improving the current preparedness of the citizen in order to increase the community self-resilience
RESOLUTE platform

Monitor + Learn

Operationalization

ERMG

Anticipate + Monitor

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Resilience Dashboard

- **ANTICIPATE**: Visualize resilience strategies and conditions
- **MONITOR**: Merge information from all connected DSSs, sensors, databases. See the whole picture.
- **RESPOND**: Show resources
- **LEARN**: Understand what happened.

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User Behavior Analyzer
Twitter Vigilance, Sentiment Analysis, Monitoring and prediction

Figure 5: Comparison among the selected predictive models discussed and presented in Tables 2 and 3 with respect to the real number of visitors. Both training and validation periods are reported.
Evacuation DSS

- **ANTICIPATE**: Visualize travel patterns
- **MONITOR**: Real-time info on ESSMA users
- **RESPOND**: Speed up evacuation
- **LEARN**: Analyze eDSS logfiles (sent through ESB)
Evacuation DSS - Evacuation Manager Module

3 modes for evacuation routing planning supported:

1. **Group-wise** evacuation (regards big groups of people)
   - Vehicles evacuation (respects the direction of the roads)
   - General public (pedestrians)

2. **Personalized** evacuation (regards the vulnerable people)
   - Route selection according to the type of the road and the disabilities of the user

3. **Collaborative** rescue action planning
   - Role assignment (rescuers, to-be-rescued)
   - Guidance of rescuers to the trapped/injured citizens
Emergency Support smart mobile app
User Interface (1/3) “Main Views”

News
Map
Chat
Profile
SOS
User Interface (2/3) “SOS Alert”

Select Details

Press the SOS Button

Send SOS

Press and hold to send a SOS message.

Press the SOS Button

Cancel SOS when safe

Call Police Department

OK

Click OK

Send SMS to Police Department

Send SOS

Press and hold to send a SOS message.
Safe route calculation

- **ANTICIPATE**: (alternative routing to avoid critical masses)
- **MONITOR**: send position data to eDSS
- **RESPOND**: Self-rescue / rescue others.
- **LEARN**: -