Telecommunication aspects of Crisis Management

Witold Hołubowicz[1,2]

Krzysztof Samp[1], *Jan Zych*[1] *and Wojciech Wojciechowicz*[1]

[1] *ITTI Ltd., Poznań*

[2] *Adam Mickiewicz University, Poznań*

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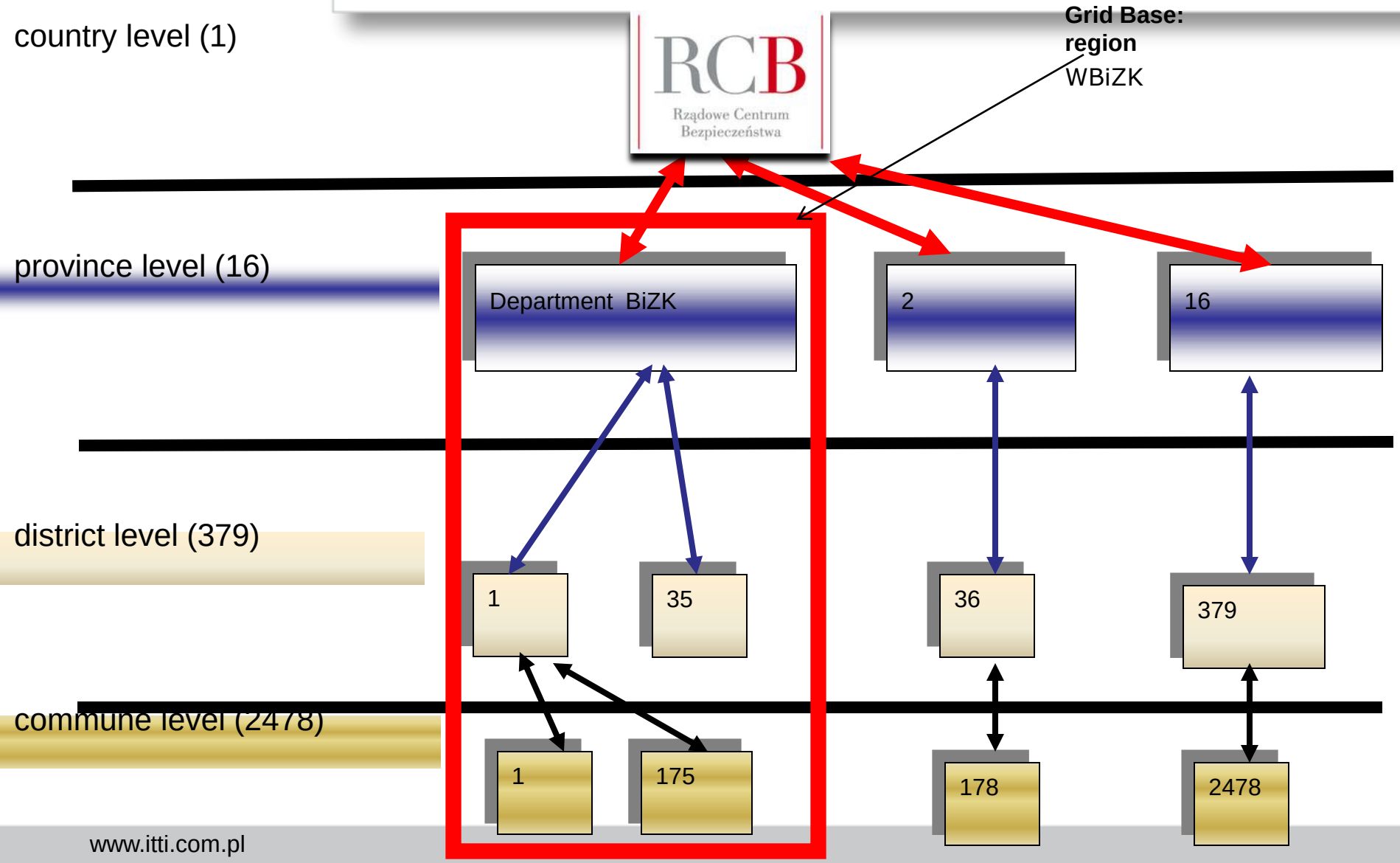
Agenda

- Challenges in Crisis Management:
  - operational
  - technical
- New oopportunities for Crisis Management
- Commercial ICT in Crisis Management
- Future actions and conclusions

Crisis management – variety of incidents

- Mass event – prevention of disorders
- Flood
- Terrorist attack
- Train wreck
- Accidents at sea

Crisis management - organisation



Challenges in Crisis Management

- Organisational:
  - units autonomy
  - frequency allocation
  - cooperation with telecommunication operators
- Technical:
  - insufficient spectrum of services
  - lack of interoperability
  - … technology should just support CM

Technical challenges

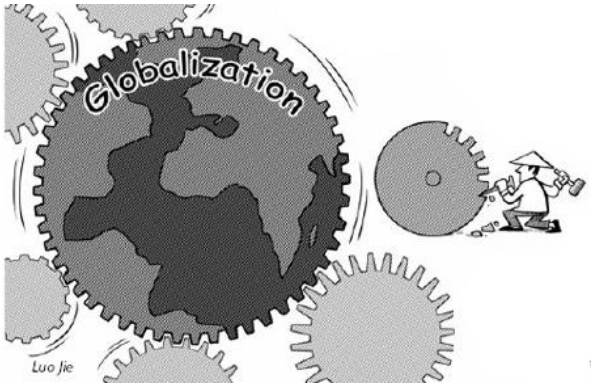
- Urgent need for extra capabilities at incident scene
- State of the art:
  - Various technologies
  - Different user requirements:
    - per agency
    - per incident type
- Lack of interoperability

Technical challenges

- Where to go from today?
  - no common vision:
    - global
    - countrywide
  - lack of „universal” technology
    - even on short-term forecasts
  - TETRA is getting more and more mature …
- Costs
  - purchase
  - maintenance

Crisis globalisation

- Crises are getting bigger:
  - more agencies engaged
  - new threats:
    - terrorism
    - cyberthreats
  - crises do not expect borders
  - more internernational cooperation:
    - Haiti
    - Cathrina (USA)



- ICT is getting more and more important

New opportunities

Huge boost in everyday use of technology:

- smartphones are getting common:
  - and more affordable
  - and more powerful:
    - multithreading
    - FullHD camera
    - autofocus
    - several GB disk space
  - and …

New opportunities

- New data sources:
  - social services,
  - on-line weather forecasts,
  - on-line maps:
    - incl. traffic information / predictions
    - great details (e.g. Google Street View)
- ease of information disseminating
- each available using just a smartphone!
- Dual use?

Commercial ICT infrastructure

Commercial ICT infrastructure:

- great coverage
- broadband data transmission:
  - 3G / LTE
  - satellite
- reliability?
  - redundancy!
- how to get full advantages from it?

Commercial ICT in CM

- possibility to use existing infrastructure:
  - IP transmission
  - redundancy
  - positioning
  - access to external data sources
- value-added:
  - encryption
  - audit trial
  - data services
  - ease of information share
  - online group management

What next?

- lack of ideal communication system
- mid–term solutions:
  - re-use of existing assets
  - provide interoperability
  - social networking sites
- research projects:
    - SAFECOM
    - EULER
    - MESA
    - HIT-GATE
    - SECRICOM
    - FREESIC
- … but the problem is still open

SECRICOM
Seamless Communication for Crisis Management

Crisis management – variety of incidents

- Mass event - prevention of disorder:
  - volunteers engaged
  - access to external databases
- Flood:
  - interoperability between agencies
  - communication with third parties
  - notifications of local residents
- Terrorist attack:
  - behaviour detection
  - actor localisation

Conclusions

- „When crisis strikes, communication saves lives”
- The need for ICT in CM is clearly seen
- The technology is available
- Opportunities to utilise new communication methods
- New sources of information identified
- But the problem is still open:
  - rather proof of concept than products
  - need to engage more stakeholders

Thank you for your attention

ITTI Sp. z o.o.

ul. Rubież 46

61-612 Poznań

e-mail: witold.holubowicz@itti.com.pl