



Integrated help reaction chains for enhancement of security in public transport

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Synchronizing research activities with actual needs

- In the city center of Karlsruhe the Kaiserstraße is a highly frequented light-rail line
- In 2005 it was decided to build a more efficient solution in the underground space, the so-called „Kombi-Lösung“
- Public acceptance was problematic in the beginning as there were concerns of increasing crime and lower level of security





Synchronizing research activities with actual needs

- For Karlsruhe Transport Association it became clear that several measures have to be taken for enhancement of security
 - Open architectural style
 - Emergency telephones
 - Video surveillance etc.

How can video surveillance be performed both efficient and reliable?





Past incidents

- Security scenario
 - Subway attackers in Berlin, Germany (2011)
 - Killed bus driver in Brussels, Belgium (2012)
- Who?
 - Passengers
 - Drivers, ticket inspectors, security staff
- Where?
 - In vehicles (trams, busses)
 - At tram stop and bus stops





Overall aims

- Swifter and more efficient reaction of staff in public transport in situations deemed critical in terms of security
 - Automatic proceeding of help reactions chains integrated in an Incident Management System (IMS):
 - Detecting somebody needing help
 - Reporting a detected situation
 - Notifying the response forces
 - Intervening directly at the scene
- InREAKT



Detecting

- Automatic detection of security-critical situations and emergencies on the public transport by using a combination of optical, acoustic and mechanical sensors
- Consideration of additional data, (e.g. telematics or acceleration) for avoidance of false alarms
- No recording of personnel data for the benefit of harmlessness in terms of data protection (Privacy by design)





Reporting

- Reporting means the transfer of a detected situation to an Incident Management System (IMS) within the transportation company's control centre
- This IMS provides recommendations on measures for operators as well as drivers, ticket inspectors and security staff
- Self-learning structures enable continuous improvement of recommendations on measures





Notifying

- In order to enable quicker intervention of response forces (police, rescue and security service), communication channels will be improved.
- For instance, a „Staff App Portal“ for smartphones will be integrated into the Incident Management System (IMS)





Intervening

- Technical systems (e.g. loudspeakers and light control systems) provide the possibility to influence security-critical situations remote-controlled
- Therefore, related strategies incl. selectable options for control centre operators as well as driver, ticket inspectors and security staff are to be developed





Accompanying psychological research and legal aspects

- Accompanying psychological research
 - Acceptance analysis
 - Capturing of subjective security concerns in public transport using disorder theory
- Legal aspects
 - Applicable data protection law





Project partners

- STUVA e. V., Köln
Overall concept & intervention measures
- Fraunhofer IPK, Berlin
Digital image processing & intelligent control centre systems
- Infokom GmbH, Neubrandenburg
Audio analysis & reporting infrastructure
- INIT GmbH, Karlsruhe
Control centre systems, telematics & passenger information
- Heidelberg University
Accompanying psychological research
- VBK – Karlsruhe Transport Association GmbH, Practice partner



We are looking forward to hearing from you about experiences and latest developments.

Thank you for your attention.

STUVA


Bewegt alle.



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