

Power cut in Berlin-Köpenick - "black swan" or real security risk blackout?

Reliable alerts in blackout situations: redundancy is important - if done properly

- Power cut in Köpenick: warning shot for disaster management
- No supply without electricity - and no mobile network
- Alerts and secure availability with e*Cityruf
- Multi-channel alerts with "2wayS by e*Message"

Berlin, 12th March 2019: The power cut in Berlin-Köpenick in mid-February demonstrated just how vulnerable the infrastructure of a modern 21st-century metropolis can be. Moreover, it became apparent that there is much room for improvement when it comes to managing disasters. The impact was considerable. Although mobile phone networks, for example, may fail when there is no electricity, alerts and communications from security and disaster relief forces must be reliably guaranteed. This is one of the purposes for which e*Message operates Europe's largest security radio network. The "magic word" is redundancy - this must be reliably guaranteed.

On 19th February, darkness suddenly fell on Köpenick. Everything stopped working in the South East of Berlin; around 31,000 households and 2,000 businesses in this part of the capital were cut off from electricity and any electricity-powered services for over 30 hours. No landlines, no mobile service, no lights and no working fridges. Street lights, traffic lights and district heating all failed as well. The cause: two 110,000-volt cables had been damaged in construction works - and while they were redundant, they were in immediate proximity to one another. And that is the problem: redundancy does not automatically equal a reliable supply.

"There will always be a risk, unless redundant systems are completely independent of the standard supply system," says Dr Dietmar Gollnick, CEO of e*Message. In the case of Köpenick, the risk consisted in the proximity of the two systems to each other (which presumably was unavoidable on account of the Allende Bridge), making it possible for both systems to be damaged at the same time.

"The necessity for maximum system independence also applies to communication and its lines and channels," says Gollnick. After all, there must be a reliable method of alerting emergency and security forces in case of an emergency - whether it is a blackout, regional power cut, natural disaster or terrorist attack. Again there is a need for a second infrastructure which does not only work when the optional primary channels (landlines, mobile networks) fail. Control centres and incident response teams, as well as crisis management teams, must be able to contact emergency units in affected areas at any time.

"We cannot rely on just one communication technology," Gollnick speaks from experience. Regional power cuts like the one in Köpenick, misinformation via social media networks as in the case of the 2016 Munich

attack, overloaded digital disaster warning systems and overstretched police digital radio systems both at home and abroad - there have been a number of different situations in the recent past which have made it abundantly clear that there is no perfect primary solution.

Europe's largest security radio network operated in Berlin

e*Message has operated the e*Cityruf alert service for years now. The service was reliably employed during the Köpenick power cut because it works independently of mobile cellular networks and landlines. For e*Message also maintains Europe's largest security radio network: independent and satellite-based with around 800 transmitting stations throughout Germany. Several radio stations simultaneously transmit the same signal within the narrowband radio network, with the result that it can continue to be retransmitted even if individual stations become in-operative (mutual broadcasting system). The overlapping radio coverage areas by neighbouring stations ensure that the service to any one area is always guaranteed by several stations.

This allows alerts and communications to reliably reach all recipients simultaneously. The e*Cityruf alert solution is utilised by emergency services of all kinds. e*Cityruf provides reliable communication wherever strict reaction times must be observed or where there is a risk of disruption with consequential damage - in the city, in the country, in buildings, cellars and underground car parks.

Moreover, alert and warning services can be installed and utilised to provide reliable warnings and information throughout Germany: e*BOS provides an optimum radio service which guarantees that fire services and non-police emergency units are alerted immediately and simultaneously. e*Warn has become an established preventive warning solution.

New: multi-channel alerts

In 2017, e*Message launched the new hybrid service "2wayS". It combines GPRS and POCSAG in one machine. The multi-channel alert solution extends the highly available communication pathway by employing a public mobile network as a second redundant communication channel. This ensures even higher availability and even better accessibility. Transmitted messages will reach their recipients in all events - the probability of failure is a hundred times less likely than would be the case if only one channel were used. In addition to the two communication networks for better availability, the system also provides a feedback channel for optional active responses on the part of recipients.

About e*Message:

The e*Message Wireless Information Services GmbH (e*Message Europe) operates Europe's largest security radio network. As one of four mobile network operators on the German market, e*Message maintains a satellite-based radio network with around 800 transmitting stations throughout Germany which is independent from public networks. e*Message provides specialised messaging services focusing on security, mobile organisation solutions and integrated solutions. This allows individuals and groups (e.g. doctors, authorities, fire services, winter maintenance services, service personnel) to be notified, warned and alerted reliably, quickly and accurately via digital devices. Established in December 1999, e*Message took over both the Deutsche Telekom and France

Télécom's paging services in 2000 and has been developing them continuously. The corporate group's operating centres are located in Berlin and Paris. (www.emessage.de)

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Press Release