

## **Something special instead of run of the mill solutions – indispensable and not to be replaced – we can't do mainstream**

Our company group is a countrywide mobile operator in Germany and France. Our network infrastructure can broadcast narrow-bandwidth information to many recipients (Narrow Band Point to Multipoint - [NP2M](#)). One part of NP2M is paging. This technology is multifunctional but, of course, cannot perform everything one can do with radio. However, so far I have not seen any product which can perform everything.

Time and again we are discussing about the best way of convincing potential users of our e\* message services. Recently, we had an internal discussion about it. Since we have nothing to hide, here are a few results. In general it is difficult to sell something no one seems to need. Suppose there had never been a fire in my place, wouldn't I rather spend the 250 million Euros Berlin gives to the fire service each year for schools and tax reductions? Really? No, of course not.

### **Which countrywide radio networks in Germany and France do we know?**

- [O2](#)
- [Telekom](#)
- [Vodafone](#)
- e\*[Message](#)
- and - perhaps with limitations - [the digital radio network](#) of the security authorities

### **France**

- [SFR](#)
- [Orange](#)
- [Bouygues](#),
- e\*[Message](#)
- [Antares security net](#)

Besides the fact that e\*Message is the only operator being active in both countries, it is obvious that: at least the commercial public networks of Orange, Telekom and co. are similar. Their functionality is, due to their similarity regarding locations, interconnections, databases and extraordinary loads in case of crisis, more dependent on each other. Therefore it is relatively likely that if one of the networks does not work, the same applies for the other networks. In contrast, e\*Message offers the greatest diversity, i.e. independence from these networks. Or, mathematically speaking: the correlation is weak. In the case of LTE/GSM failure, the probability that e\*Message is still working is very high. Thus mobile phone and paging users can reduce the probability of failure by two hundredth, not just by half which is the case when using two SIM-cards or one SIM-card for several networks.

### **Independence**

e\*Message operates a service which, due to its independence and its control by a central infrastructure, can channel the load and is also available in crisis situations.

Major examples: the attacks in [Madrid](#) 2004, [London](#) 2005, [Belgium](#) 2016, [Munich](#) 2016

Another example: Belgium on 22 March 2016: The Belgian security forces operate three networks: Tetra, mainly for internal voice and data communication, a POCSAG paging network such as e\*Message and an app service on a smartphone basis, which, for security reasons, is provided with all three SIM cards of the mobile telephone operators. Tetra had problems from 9 to 12am. One could not log in the app service (warning, info) between 9am and 5pm. On the contrary, paging was 100% available during the attacks. By the way, the Belgian security forces and the government had already decided to invest further in paging before the attacks. As in the Netherlands, paging operation is guaranteed for at least the next one and a half decades because of extensive new developments.

## Coverage

In two major central European countries e\*Message provides a countrywide radio coverage. This is especially attractive for users who have countrywide structures as well. For instance, [logistic companies](#) in Germany use e\*Message because they can rely on wide radio coverage even when a new logistics center has just been established.

## We have a network, a real radio network

Regarding coverage: Can someone imagine how expensive such a network is? We are talking about design and construction, consent of the population which does not necessarily want to have more radio towers in their neighborhood, and, in particular, maintenance.

Keyword: Internet of Things: who really dares to build up a German wide network with [SigFox](#) or [LoRa](#)?

Over time, it looks worse. The net is a prerequisite: something you must have. The infrastructure is a value in itself. Besides one must know that e\*Message's services, because of their reliable and unbeatable downlinks, are a crucial and recognized supplement for all narrow band IoT (also [NBloT](#)) services. When it comes to downlinks all the other services face difficulties.

## Broadcast to many recipients with guaranteed delivery time

Clear advantage for paging and e\*message: if messages are to be sent at the same time with guaranteed delivery time. The signal is put into the air for all entitled parties. No competition for packet-oriented organized resources. Everything is calculable. Fire brigades alert in [Marseilles and Paris](#), but also in [Gelsenkirchen](#) and [Bad Doberan](#) with paging. There are more pagers in Germany than Tetra radios.

## Downlink

No one can better transport data to the recipient. The NP2M paging technology is exactly made for it. Anyone who believes that this can be copied by other technologies should talk to experts from the LTE, GSM, NBloT and 5G operators. Some of them are experienced - they agree immediately. Others do at least recognize the crucial complementary contribution of our technology.

## Easy to Use

Take it and use it. Again the example of e\*[Cityruf](#) with truck queues in front of the logistics centers' ramps. Of course, this does not work with mobile phone solutions since drivers come from all over the world from Portugal to Belarus having all kinds of SIM-cards etc. Pagers are distributed as waiting numbers. Most of our clients reply, when being asked why they use our services: easy to use.

## Many other advantages

Paging is optimized for low power consumption. Even in times of power cut pagers can be used for several weeks in contrast to mobile phones. This happened during the flooding in Germany and France.

There are other advantages of paging. For instance, its functionalities can be easily integrated into devices with low power consumption. This happened with millions of weather stations working with batteries instead of power plugs and being used in German and French households, or with smoke detectors, as recommended by the German engineer association [ZVEI](#).

Germany's largest urban distribution system operator Stromnetz Berlin with 2.2 million power connections has recently used e\*message technology for network switching. Hardly anyone knows that paging technology (NP2M) in the control boxes "[Strompager](#)" plays a decisive role.

**The appeal of all-in-one**

Every sales organisation has the problem that some sales projects can include a high proportion of consulting services and thus the effort is too high. A network operator is a network operator. Orange and T-mobile are not google and SAP. Even e\*Message cannot solve every problem that the customer wants to be solved. However, we can advise on our advantages.

**Of course, there will be more modules for all-in-one**

We will support integrators and holistically thinking customers. For this we provide different hardware, for example pagers with embedded technologies. We will support these but do not expect miracles: the integration into users' processes is anything but trivial and usually goes far beyond sales talk. It needs some thinking and, in the short term, offers less chances than to use what is already out there.