



UNIVERSITY OF LEEDS

Leeds University Business School

English Fire and Rescue Services – Preparedness for ESN

Webinar 08 September 2020

View the webinar recording [here](#).

This document sets out the questions and answers from the webinar.

Q. Is the project owner not worried about the lack of capabilities from FRSs to fully use the possibilities ESN will bring: end to end real time mission critical sharing of information? Is central coordination not possible?

These are concerns of the programme which is why the ESMCP team works closely with the FRS coordinators to address those issues. For the ESN to be taken up and used in the right way it relies on user FRS organisation to embrace the opportunity. To do that they need the programme to provide guidance on the technical process etc. There is still a degree of lessons to be learned – which is why rolling out to early adopters is important, and lessons can be fed back into the overall system. It may be that to really maximise the benefit, the programme has to do more centrally but every FRS is a unique entity and has complete responsibility for delivering services in their own area. The programme cannot just ride straight over the top of how they work.

The risk is that to do too much centrally will stifle innovation as working to the lowest dominator will prevent those pushing at the edges to really move forward. Absolutely we should be setting minimal and common standards, and the ESN should be seen as a springboard for innovation. We need to provide guidance and provide choice.

Q. The sharing of data between emergency services is as much a cultural issue as it is an ICT problem. Whilst the availability of a secure network for sharing data will help with the cultural issues, it is just the start of the cultural journey. What work is planned to overcome the cultural barriers to data sharing, especially considering that this has been in development for almost 10 years.

This is absolutely a key question. The possibilities from ESN are almost endless, but data sharing historically has been a challenge even with legislation in place. When we look at data sharing with front line services, having a secure and resilient bearer and a system that underpins it will go a long way to breaking down some of those cultural barriers. All emergency services are looking at ways of working and what may change with regard to data sharing. There are some features that are native in the application, for example text and messaging that may be able to be shared across a talk group of other agencies responding locally, an enhancement we don't currently have. Going further is out of scope of ESN and very much in the hands of emergency services generally in terms of developing those applications that sit on the top of ESN. Maybe utilising some of the functionality and certainly its resilience and security will allow users to springboard into that big brave future. The challenge is to get well over 100 user organisations agreeing and sat on one page. It is not impossible, there is the JESIP system and the interoperability programme board so there is some expertise in that area. As users start to see ESN and its capabilities, minds will open to the potential and there will be a moving towards that agreement. It is a long journey and won't be quick or straightforward.

The University of Leeds Business School has conducted a separate review of data science approaches and data analytics approaches across the south east of England looking at how FRS, Police, social services and health share data. It is a cultural issue and GDPR is often used as a foil for not sharing. There are some significant technological barriers around how data is being held in different ways by the different services and it is just not possible to share that data in a meaningful way without a significant amount of time in terms of data cleansing.

Q. Does the FRS have its own vision and strategy towards implementing mobile mission critical broadband services?

It has been long accepted that 4G/LTE for mission critical broadband is the way forward. The FRS vision therefore is to deliver ESN. Now the true capabilities of ESN are emerging, and how some of these will function, FRSs are starting to look at how that may change the operational modus and the ways of working. From there, FRSs will need to look at how to take ESN forward and there is a real tension between how much is done centrally and how much locally. The risk is that FRSs end up with a disparate number of systems that are unable to communicate with each other. On the other hand, trying to procure something centrally may end up taking so long to deliver that it might be obsolete by the time the process is completed. So it trying to work out how the sector can become that better intelligent client to truly utilise that broadband capability.

Q. Is it possible to ensure consistency across ESN delivery to FRSs if they are all different?

Consistency in terms of what is available to choose from is entirely possible and indeed is what will be offered. Consistency on how FRSs opt to take up ESN is entirely up to them. Some aspects are mandatory – if voice interoperability is required then the mission critical PTT aspects will be needed, but how far FRSs go with some of the data aspects where they may or may not wish to take video – that is a choice of each FRS based on business processes and the vision they have for the future.

ESN is not mandated to FRS, it's a choice but if Airwave is being switched off then a secure comms system needs in place with interoperability and ESN looks a highly likely candidate. How and what FRSs take up is a matter of local choice. Pleasingly, some FRSs are taking data early and looking to deploy in use cases and scenarios previously not envisaged, for example bearers for mobilising. People are starting to really look at how to utilise it – but no one size fits all.

The fact that FRSs are starting to use data in ways not originally thought of is a great development as there is now a pull for the technology rather than it being regarded as being forced on the users. It is the user organisations that have the brightest ideas as to how to get the most out of the solution. Getting them to start thinking about and deploying those solutions is a really big win for the programme and the FRSs themselves.

It is also important that the supplier ecosystem is growing too – over the last two years more and more suppliers are committing to developing ESN-ready and compatible products. A lot of that involvement from suppliers is coming because they are getting push from customers – it's really encouraging that products are getting through the test process, and hopefully more will come through this year and next year to continue to broaden out that choice.

Q. If for some FRS the local authority is king both in terms of cash holder and budget, how do the FRSs then prioritise funding/budgets to ensure they are not the poor relation to other local authority priorities?

For FRSs who are part of the local authority, the key about the budget priorities is an absolute challenge as it has to be recognised that education and social care and a raft of other things also demand priority from within. It also must be recognised that the English FRS is very well supported by the relevant government department – in terms of securing early funding for transition to ESN there is money available. For local authorities it's part of the bigger broader challenge that they have to work with in terms of influence, realising in some cases the uniqueness of FRS and that this is an absolute priority as it fits into national work, and national technology programme. There is no magic wand but up and down the

country it is very different per authority. As ESN becomes more certain and real, and the shift from talking shop to demonstrable devices continues, there will be more decisions to commit the resources.

The research highlighted one local authority that had ring fenced funds for ESN – making a clear business case is critical to the FRSs getting the resources needed for transformation.

Q. Complex multiuser programmes like ESMCP only deliver benefits when the users 'pull' the new service rather than providers 'push' it. For that to happen users need to see ESMCP as helping them do their job better, quicker, safer, and not see it as a technology solution. Can more be done to excite the users in that way?

The answer has to be yes, we really do want the users to be pulling this. The best way to excite users is to demonstrate the capabilities of ESN. We're in the very positive state of the Direct 2 release bringing in MCPTT voice, Network Interworking has passed user acceptance testing with Merseyside FRS, this will allow us and MSFRS to really see what ESN does offer and that will start to encourage and hopefully excite the FRS to want to get more involved with the programme and pull it more. There is some really good feedback from the County of Durham and Darlington FRS going live with the Connect data product and that has spurred a lot of other FRSs to want to take that product. Once the nice pictures and presentations turn into actual product, and users can use the equipment, there will be more opportunities to for others to see what is available so they can really start to evaluate properly.

Q. Given the continued importance of core fireground Radio (Voice) communications which is not provided from ESN does the panel think the integration with this has been given enough attention?

Fireground radios operating in the UHF spectrum offer great benefits and cost effectiveness in localised communications for Fire and Rescue Services. Increasingly, there is a move from analogue to digital capabilities, which offer some future opportunities.

There was only limited uptake and interest in cross band repeaters (gateways) enabling UHF transmission through to the Airwave network – only a handful of FRSs have this capability at present, despite this offering some significant benefits (Author's experience and opinion!). Going forward we will be continuing with running Fireground radios in parallel with wide area communications (Airwave or ESN), especially as both are integral to our ways of working and operational doctrine.

It is not yet known how much of an appetite there will be for greater integration between the two systems, and this will be driven by the opportunities and use cases identified. Please bear in mind that integration between Fireground Radios and ESN as suggested by the question is out of scope for the Programme and any development will be either a local or sector led endeavour

Q. Do you believe there is enough certainty about the availability of ESN for Fire & Rescue Services to bother trying to prepare for promised capabilities, particularly in the light of delays to date?

Yes, with the availability of both Direct 2 (MCPTT release with Network Interworking) and Connect (Data release) this starts to give the certainty that FRSs require to start planning and in many cases to start deploying these releases, either for operational use in the case of Connect, or to test in an operational context with Direct 2.

With Connect we have a “pipeline” of FRSs waiting to onboard and to start using this release.

With Prime due early next year then now is the time for FRSs to commence detailed planning and the NFCC team under Ian Taylor, along with the Programmes Deployment team will be happy to assist in this work.

From an FRS perspective there are still some uncertainties and areas where more information is required. These are naturally reducing as ESN products are being delivered and confidence is gained in the entirety of ESN. The challenge for FRSs is needing to physically see the true end to end capabilities (and potential) of ESN on the ground. All will want to see the Kodiak application, data transmission rates in different coverage scenarios, handheld and vehicle devices and how far they may be able to project WiFi bubbles etc. to inform thinking on how best to utilise it.

Using ESN as a replacement for Airwave is a given for all FRSs and all are making progress in their considerations and preparations for transition onto it.

Q. How many FRS agencies are able to afford both ESN and Airwave, and how many can only afford one or the other (and need PTT voice to move to ESN to make a change)?

It is envisaged that there will be a period of dual running of both ESN and Airwave during any transition of voice services. At a local level, one of the challenges is to minimise this period, yet allowing for an appropriate amount of time for transition to be manageable, safe and without degrading the service to frontline staff or the public. Discussions are ongoing with the Home Office regarding the financial risks associated with dual running.

Some FRS use commercial bearers for data rather than Airwave and that any decision to migrate to ESN data ahead of voice will be a local choice, as borne out by the number of FRS who are currently in the process of taking ESN Connect (data only).

Q. What has the uptake been of ESN services by FRS, now that ESN services are rolling out nationwide? And, have we seen any increases/acceleration in demand for ESN services by FRS as a consequence of dealing with this pandemic? (Perhaps too early to say but...)

The uptake of the data product Connect from FRSs has been very encouraging and is spread across England, the task now is to onboard these organisations onto ESN, so they can start

using it. With Merseyside FRS being the lead Organisation for Direct 2 the FRSs are in a strong position to fully evaluate it ready to take Prime.

We are not aware of any increase in interest as a result of the pandemic.

The one uptake that's worthy of note is that ESN Assure 1.1, the first phase of national coverage assurance, was successfully rolled out during lockdown, and every Police Force, FRS and Ambulance Trust is now able to test ESN coverage in their area

Q. Did your research highlight future ESN voice and data requirements and combine it with conventional digital Fire Ground radio communications?

The survey provided an indication of the ICT priorities for English FRS which suggests future requirements for ESN (at a service by service level) and a direction of travel. The aim of the research wasn't, however, to explore future requirements.

Ends