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# Setting a course for the most responsive emergency communications using 112

## Executive summary

DIGITALEUROPE supports the overall intention of the European Commission's draft delegated act on improving access through the single European emergency number 112.<sup>1</sup> This delegated act can provide Europeans with a more robust and future-proof emergency response system – no matter the device, network or application chosen by the user.

Access to emergency services is a vital element of public safety, and DIGITALEUROPE's members are eager to play their part in ensuring that Union citizens have swift and reliable access to public safety answering points (PSAPs) in the digital world. We particularly welcome the setting of 'parameters' for the accuracy and liability criteria for caller location, the routing of emergency communications through packet-switched technologies (Recital 13), the commitment to ensuring that end-users with disabilities are guaranteed functionally equivalent access to emergency services (Art. 4), and the Commission's intention to increase the interoperability of emergency applications (Recital 16).

In this paper we highlight elements of the draft delegated act that we believe require further finetuning and clarification. Particularly the final version should reflect the realities of network-independent (and often cloud-based) services in providing access to emergency services and caller location information (CLI). To ensure high levels of effectiveness, native emergency communication solutions that leverage the most accurate location data should continue to be prioritised over app-based solutions, including in an accessibility context.

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<sup>1</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13183-Emergency-communications-improving-access-through-the-single-European-emergency-number-112\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13183-Emergency-communications-improving-access-through-the-single-European-emergency-number-112_en).

As expressed in previous DIGITALEUROPE contributions<sup>2</sup>, we generally believe that number-independent interpersonal communications services (NI-ICS) should not be required to provide access to emergency services and precise location information due to their technical characteristics. NI-ICS do not control the underlying network and are therefore technically unable to provide access to emergency services and/or persistent, accurate CLI. Additionally, there is likely to be a limited ability for a PSAP to 'call back' an NI-ICS user with any certainty, uniformity and confidence without an associated telephone number.

Finally, it is crucial to ensure the European Electronic Communications Code (EECC) delivers high quality for European citizens across the EU.<sup>3</sup> For this reason, DIGITALEUROPE encourages the Commission, potentially with BEREC's support, to promote a common set of accuracy and reliability criteria in order to avoid divergence from one Member State to another.

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<sup>2</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13183-Emergency-communications-improving-access-through-the-single-European-emergency-number-112/F2746231\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13183-Emergency-communications-improving-access-through-the-single-European-emergency-number-112/F2746231_en).

<sup>3</sup> Directive (EU) 2018/1972.



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## Caller location information

Art. 3 of the draft delegated act sets out specific criteria regarding the determination of the end-user's location. The provision is limited to fixed and mobile networks. Describing networks as either fixed or mobile in the context of emergency communications does not accurately account for the fact that consumers and businesses are increasingly using nomadic, Wi-Fi-enabled and often cloud-based communications solutions.

Categorising these services as a type of fixed-line communications service or as characteristics of a mobile service does not capture their network-independent nature. We, therefore, propose that Art. 3 be amended to also address network-independent services as a third category, in addition to fixed and mobile. This would be in accordance with Recital 286 EECC, which rightly identifies the role of network-independent number-based interpersonal communications service (NB-ICS).

Furthermore, the distinction between criteria for fixed and mobile networks does not take into consideration the possibility that an application client on a mobile device may send emergency communications over a wireless-enabled network termination point, i.e. Wi-Fi, while being unable to leverage a mobile network. A physical address requirement, as outlined in Art. 3(2)(a), is possible in a traditional land-based fixed communications arrangement where the termination point is known. In a Voice over Wi-Fi (VoWiFi) scenario, a mobile device may be used in a variety of physical locations and may not be able to access reliable information related to the physical address of the network termination point. For this reason, we suggest revising the draft delegated act to make it clear that the physical address is not the applicable criterion for measuring a mobile device in situations where such a device sends an emergency communication over a wireless enabled network termination point.

Recital 286 EECC also recognises the technical challenges of: (i) providing a caller location; and (ii) routing to the most appropriate PSAP for such network-independent NB-ICS. We do not see this reflected in the draft delegated act. We believe that the final act should recognise that network-independent NB-ICS providers have different technical capabilities for gathering user location and, where possible, provide alternative means for providing emergency communications.

If not technically feasible to ensure automatic location information is sent to the PSAP, covered entities should be allowed to manually collect location information or use other available solutions. In practice, network-independent services do not have automatic access to location information from a device's operating system, but may be able to establish location dynamically using all information available regarding a particular emergency call. If the network-independent service cannot obtain real-time access to location information due to the user's device settings, reliance upon a user-provided static

address will be suboptimal in terms of accuracy and reliability. It may be better to rely on data from a device's GPS/GNSS and Wi-Fi sensors in deciding how to route the call. With 'device-based hybrid' technologies, the device's operating system can use information made available to determine the device's geographic coordinates. We think that this ought to be clarified in the final act. Consequently, we believe that the final act should implement the exceptions foreseen in Annexes VII, Part A (1) and IX, 2.5 EECC for network-independent services to spell out the limitations for access to emergency services in their contracts with customers if it is difficult to provide accurate CLI.

Finally, the reliability criterion outlined in Art. 3(3)(b) and Recital 9 include inconsistencies. Recital 9 refers to transmission of CLI as one of the criteria to define reliability. This is, however, not reflected in the article, which rightfully focuses on the overall success rate in establishing a search area corresponding to the accuracy criterion. Devices, networks and PSAPs all play a role in the transmission and processing of CLI, making it hard to assess reliability in those terms. We therefore suggest removing the reference to transmission in Recital 9 to avoid any confusion.

Given that network independent NB-ICS are usually offered in a cross-border way, it is crucial to use harmonised criteria across Member States. This is also very relevant to mobile handset manufacturers who make device-based location data to operators and PSAPs. We therefore believe that the Commission and BEREC should go further in creating a harmonised approach within the EU as to the setting of accuracy and reliability criteria for caller location for those services.

While we recognise that national authorities are empowered to establish their own caller location accuracy and reliability criteria, we are concerned that this could entail accuracy and reliability being defined by up to 27 different sets of metrics. This fragmentation across Member States risks introducing different levels of user safety across the EU, negatively impacting consumer experience and effectiveness of response, as well as significant complexity in terms implementation and compliance for both network-independent NB-ICS and device manufacturers.

We contend that, beyond laying down 'parameters' for national regulatory authorities to consider in establishing these criteria (Art. 3), we should evolve towards an acceptable minimum threshold for accuracy and reliability as part of the final act or in its subsequent implementation, where we see BEREC playing a role. Such a minimum threshold would greatly facilitate compliance and would allow the Commission to raise the ambition in terms of accuracy and reliability of caller location across the EU, incentivising investments in improved connectivity infrastructure where required.



## PSAP access and accessibility

Art. 4(d) of the draft delegated act foresees the need to route emergency calls that are emerging from callers with disabilities to a PSAP that is properly equipped and qualified. In a similar sense, we recommend adding that emergency calls originated by network-independent NB-ICS providers should be routed to a qualified default PSAP.

We recognise that the appropriate routing of emergency calls depends on the nature of a particular emergency communication and the technical capabilities of PSAPs to receive and appropriately respond. Yet, for ensuring access to emergency services, it is also very important that emergency calls from users of network-independent NB-ICS are routed to a PSAP in a way that takes into account that CLI might not be available for such calls as it is for calls from network-based telephone services. This would be possible if each Member State identified a PSAP designated to receive calls and other communications from non-traditional services – at least in the short term until different methods for access to CLI are available – to improve and accelerate the implementation of seamless and ubiquitous access to emergency services using 112.

We suggest the Commission align as much as possible with legislation and standards adopted by third countries that pursued similar objectives.<sup>4</sup> This alignment will enable the Commission to benefit from lessons learned in third countries and allow providers to quicken solution implementation by using existing technical solutions where possible.

Furthermore, we urge that efforts to promote the provision of functionally equivalent emergency communications for end-users with disability be directed to real-time text (RTT), a technology that is already available in most mobile devices, or text-to-112 using NextGen mechanisms such as SIP MESSAGE. RTT for emergency services is deployed in many markets outside the EU, but is not yet supported by most European PSAPs. Such native solutions are the most effective for accessibility purposes.



## Interoperability

Regarding Voice over LTE (VoLTE) interoperability, we agree with the Commission's analysis that moving to an all-IP communications network would provide many long-term benefits, notably the use of multimedia applications and PSAPs being provided with additional contextual information over the course of emergency communications. Moreover, we welcome the delegated act's requirement for Member States to prepare a roadmap for upgrading their PSAP systems' capabilities to handle emergency communications provided through packet-switching technologies (Art. 7(2)).

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<sup>4</sup> See notably Section 506 of RAY BAUM's Act in the US.

However, the swift implementation of VoLTE interoperability across Europe in this space should be further secured. Art. 7(2) sets a deadline for Member States to prepare their roadmap, but does not set a timeframe for them to upgrade their national PSAP systems to be VoLTE compatible, nor does it set an explicit obligation to address compatibility or continuity issues encountered by roaming end-users beyond a requirement to report on the technical reasons for these issues.

We therefore urge the Commission to consider more binding incentives to ensure progress on VoLTE interoperability across all EU mobile networks and devices, including provisions mandating for the testing of such interoperability to help identify and incentivise any necessary upgrades.

Although outside the delegated act's scope, it should be noted that greater pan-European coordination among PSAPs is ultimately necessary for interoperable and ubiquitous access to emergency services in Europe.

To accelerate the benefits of a seamless emergency communications network that can facilitate cross-border emergency call routing, contextual data sharing among Member States and interoperability of emergency apps, we believe that Europe should move towards adopting a common architecture for routing. Having common standards and shared protocols is important, but to meet users where they are in their choices and use of technology there needs to be an investment in a routing infrastructure, so that new technologies are less disruptive to emergency response.

To achieve a truly interoperable emergency response system that is borderless, Member States will need to share some form of a common infrastructure that enables pan-European routing as a platform for further contextual data sharing. Recent events in Europe have demonstrated that no Member State can rely upon its emergency system alone, and that cross-border events, emergencies and resources must be able to align quickly. Through advancements in modern communications, there are opportunities to lay the groundwork for next-generation emergency response capabilities. Adopting a common architecture among Member States will give users greater choices in their use of technology to access emergency services, including when a user's physical capabilities may be limited. While several countries have started efforts to share a common infrastructure within their borders, there is a gap in coordinating this work across the Union.

The Commission should consider additional measures to encourage greater infrastructure sharing. Art. 7 of the draft delegated act should ideally incite Member States to report on their capabilities to share a common emergency communications infrastructure with other Member States.

Finally, we note the Commission's intention to work on the interoperability of emergency services apps. While mobile emergency apps can act as complimentary solutions, they are not suitable alternatives to natively provided emergency communications. Mobile emergency apps are less likely

to meet the standards needed to deliver effective and functionally equivalent access, particularly if they do not default back to native mechanisms. They suffer from low user adoption, are not prioritised by networks, and are ill-suited for roaming. Therefore, they should not be prioritised.

Native emergency communications solutions are the most likely to ensure quick user access by relying on the dialler, connectivity with the most appropriate PSAP, and adequate caller location provided alongside the emergency communication. They also better integrate with emergency services when roaming.

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## About DIGITALEUROPE

DIGITALEUROPE is the leading trade association representing digitally transforming industries in Europe. We stand for a regulatory environment that enables European businesses and citizens to prosper from digital technologies. We wish Europe to grow, attract and sustain the world's best digital talents and technology companies. Together with our members, we shape the industry policy positions on all relevant legislative matters and contribute to the development and implementation of relevant EU policies. Our membership represents over 45,000 businesses who operate and invest in Europe. It includes 98 corporations which are global leaders in their field of activity, as well as 41 national trade associations from across Europe.

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