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| **CHANGE REQUEST TEMPLATE** |
|  | ETSI EN 302 637-3 | **Version** | 1.3.1 | **CR** | 4 | **rev** | - |  |
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| **CR Title** | Description of relevanceDistance in the DENM standard |
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| **Original Source** | ITS WG 1 |
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| **Work Item Ref** |  | **Submission date** |  |
| **Approving TB**  | ITS | **Approval date** | 02.07.2021 |
| **Category:** | **F** | **Release** | 1 |  |
|  | Use **one** of the following categories:**F** (correction)**A** (correction in an earlier release)**B** (addition of feature) **C** (functional modification of feature)**D** (editorial modification) |  |
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| **Reason for change** | The current description of the relevanceDistance in the DENM standard limits its application to events detected at a single event position (punctual event). For some use cases, an event can be detected on an area (area-based event) and can be described in a DENM with a combination of event position and event history points. As a consequence, the relevanceDistance description should be modified to indicate the distance from the event position or from any of the event history points. The C2C-CC is currently proposing an approach for setting the DENM GeoBroadcast DestinationArea that would benefit from this modified description of the relevanceDistance to optimally serve use cases with area-based events |
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| **Consequence if not approved** | If not approved, it would be impossible to explicitly indicate the relevanceDistance to event points of a DENM eventHistory. As a consequence, misinterpretations of the relevanceDistance would occur when dealing with use cases making use of DENMs for area-based events.  |
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| **Summary of change** | Slightly extend the relevanceDistance definition in section B.38 in the following way:The distance in which event information is relevant for the receiving ITS-S,starting from the event position or from any of the event history points as defined in clause 6.1.3.1Additionally, insert the following note in clause 6.1.3.1Note: If a DENM contains an eventHistory DF, multiple relevance areas exist. One area is located at the eventPosition DF and each point in the eventHistory DF creates an additional, individual relevance area.Finally, for making sure that a destination area including multiple relevance areas is used for KAF forwarding, the following note is proposed in clause 8.3.2.7. The note implicitly assumes that the DENM originator sets the destination area in a way to cover all the relevance areas of the notification, so that the KAF forwarder can reuse them.Note: Especially for DENMs with an eventHistory DF, it is recommended to buffer the original DENM’s destination area for possible reuse in KAF forwarding. |
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| **Clauses affected** | B.38, clause 6.1.3.1, clause 8.3.2.7 |
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| **Linked Change Requests** |  |  |
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| **Other comments** | The current relevanceDistance formulation in ETSI TS 102 894-2 is compatible with the new formulation and does not need to be modified |
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### B.38 RelevanceDistance

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| Description | The distance in which event information is relevant for the receiving ITS-S,starting from the event position or from any of the event history points as defined in clause 6.1.3.1 |
| Data setting and presentation requirements | This DE is OPTIONAL. It shall be present when the information is required bythe ITS application.This DE shall be presented as specified in ETSI TS 102 894-2 [5]*RelevanceDistance.* |

6.1.3.1 DENM relevance area
A DENM should be disseminated to as many ITS-Ss as possible located in an area of relevance, denoted as relevance
area. This includes ITS-Ss entering the relevance area until the validityDuration and ITS-Ss that have no connectivity to
the originating ITS-S when the DENM is transmitted.
The relevance area is set by the ITS-S application of the originating ITS-S and shall be included in the DENM when the
information is available. A receiving ITS-S may make use of the relevance area information to realize the relevance
check.
According to the event type and the event location, the size and the shape of the relevance area varies. In the present
document, following information shall be used as the relevance area information:

* relevanceDistance: The distance within which the event is considered relevant to the receiving ITS-S.
* relevanceTrafficDirection: The traffic direction along which the receiving ITS-Ss may encounter the event.
Therefore, it is also the direction along which the DENM should be disseminated. As an example, for an
accident on a motorway, the relevant traffic direction of a DENM related to the event may be the upstream
direction of the accident location. While for the accident occurred in rural two-way roads, the
relevanceTrafficDirection may be both traffic directions (including also the opposite carriageway).

The relevanceDistance and the relevanceTrafficDirection shall be as specified in Annex A.

Note: If a DENM contains an eventHistory DF, multiple relevance areas exist. One area is located at the eventPosition DF and each point in the eventHistory DF creates an additional, individual relevance area.

8.3.2.7 DENM reconstruction
When a DENM is being forwarded, the DEN basic service shall reconstruct the DENM before forwarding it to the ITS
networking & transport layer. For this reconstruction, the management container, situation container, location container
and à la carte container of the DENM shall not be modified. The ITS PDU header shall be replaced by the ITS PDU
header constructed by the forwarding ITS-S

Note: Especially for DENMs with an eventHistory DF, it is recommended to buffer the original DENM’s destination area for possible reuse in KAF forwarding.