**3GPP TSG-CT WG1 Meeting #125eC1-205376**

**E-meeting, 20-28 August 2020**

**Source: Nokia, Nokia Shanghai Bell**

**Title: New WID on Enhancements to Mobile Communication System for Railways Phase 2 (eMONASTERY2)**

**Document for: Approval**

**Agenda Item: 16.1.1**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: Enhancements to Mobile Communication System for Railways (MONASTERY) Phase 2

## Acronym: eMONASTERY2

## Unique identifier:

Potential target Release: Rel-17.

Note that this field above indicates the proposed Release at the time of submission of the WID to TSG approval. It can later be changed without a need to revise the WID. The updated target Release is indicated in the Work Plan.

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | X |  | x |  |
| **No** |  |  | X |  | x |
| **Don't know** | x |  |  |  |  |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

This work item is a

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| eMONASTERY2 | SA6 | 840037 | Enhancements to Application Architecture for the Mobile Communication System for Railways Phase 2 |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
|  |  |  |

**Dependency on non-3GPP (draft) specification**:

## 3 Justification

The railway community is considering a successor to GSM-R, with 2G-based GSM-R technology envisaged to be completely replaced around 2030, and the first Future Railway Mobile Communication System (FRMCS) trial implementations expected to start around 2020.

The FRMCS functional working group of the International Union of Railways (UIC) has investigated and summarised the requirements for the next generation railway communication system in the Future Railway Mobile Communication User Requirements Specification. These requirements have been sent to 3GPP by ETSI TC-RT building the basis for SA1 to progress their work on requirements for the Mobile Communication System for Railways.

Initial specification work has been done in Release 15 on developing support for railway requirements for MCPTT group calls (on-network) to support the multi-talker feature and to allow the use of functional aliases. Additional specification work has been done in Release 16 on supporting railway requirements for MCPTT group and private calls and on enabling the use of functional aliases in MCPTT private calls and MCData service.

Additional Stage 1 requirements were identified in Release 17 (MONASTERYEND) and are specified in following technical specifications: TS 22.280, TS 22.281, TS 22.282, TS 22.179 and TS 22.289 (Service requirements for Mobile Communication System for Railways). The corresponding normative stage-2 work is specified in TS 23.280, TS 23.281, TS 23.282, TS 23.283 and TS 23.379.

This work item will provide the necessary stage-3 work for the normative requirements in eMONASTERY2 and the normative MCVideo related requirements of MONASTERY2\_ARCH.

## 4 Objective

The objectives of this WI are to define the stage 3 aspects for stage 2 technical specifications developed by SA6 under their work items eMONASTERY2 and MONASTERY2\_ARCH.

Stage 3 work shall be started only after the applicable normative stage 2 work is available.

Work in CT Working Groups will cover stage-3 for the following aspects:

1. call forwarding and call transfer for private calls;
2. extending IP connectivity service,
3. interworking with GSM-R,
4. use of functional alias by a called MC service user,
5. clarify the relationship between groups and functional aliases and specify solutions which enable
6. MC service server prevents de-affiliation when using a specific functional alias(es),
7. MC service server provides a list of functional aliases used by affiliated group members,
8. arbitration of incoming communications,
9. using functional alias as target address for MCPTT private emergency calls,
10. using functional alias as target address for establishing MCData and MCVideo sessions,
11. user requests application layer priorities,
12. enabling functional aliases for MCVideo.

Existing standardized Mission Critical services protocol solutions shall be utilized and enhanced where possible.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR**  |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 24.379  | Update protocol in signalling plane for MCPTT to support features as specified for eMONASTERY2 and listed in clause 4  | TSG#93 (September 2021) | CT1 |
| TS 24.282  | Update protocol in signalling plane for MCData to support features as specified for eMONASTERY2 and listed in clause 4  | TSG#93 (September 2021) | CT1 |
| TS 24.481  | Updates to configuration data for groups  | TSG#93 (September 2021) | CT1 |
| TS 24.483  | Updates to MO needed to support features as specified for eMONASTERY2 | TSG#93 (September 2021) | CT1 |
| TS 24.484  | Updates to system and user configuration data to support features as specified for eMONASTERY2 | TSG#93 (September 2021) | CT1 |
| TS 24.582 | Update protocol in media plane for MCData to support Functional Alias | TSG#93 (September 2021) | CT1 |
| TS 29.379 | Update call control procedures to support interworking with GSM-R | TSG#93 (September 2021) | CT1 |
| TS 29.380 | Update MCPTT media plane control to support interworking with GSM-R | TSG#93 (September 2021) | CT1 |
| TS 29.582 | Update signalling and media procedures to support MCData interworking with GSM-R | TSG#93 (September 2021) | CT1 |

## 6 Work item Rapporteur(s)

Gkatzikis, Lazaros (Nokia)

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## 7 Work item leadership

CT1

## 8 Aspects that involve other WGs

SA3 for security aspects

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| FirstNet |
| Kontron Transportation France |
| Nokia |
| Nokia Shanghai Bell |
| UIC |