



French C-ITS Deployment Coordination committee

Common technical specifications for use cases - embedded VMS

2.4.1.2_M_C3

Activity 2: Studies

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Publication history

Date	Version	Author(s)	Updates & changes	Diffusion
14/11/2019	4.00	A. AUDIGÉ	<ul style="list-style-type: none"> Consolidated version for release 4 	Release 4
23/02/2020	4.10	A. AUDIGÉ	<ul style="list-style-type: none"> Spec post migration, validated by COCSIC 2020-02. 	COCSIC
13/10/2020	4.20	A. AUDIGÉ	<ul style="list-style-type: none"> Correction of the message associated to the figure to comply with the master_I2V post-migration (positionConfidenceEllipse), validated by COCSIC 2020-09. 	COCSIC
11/06/2022	4.21 & 4.22	J.DIEZ	<ul style="list-style-type: none"> Mantis n°970 (only one relevance zone possible). New Master taken into account for IVI messages (text information moved into Text container and minor changes). Clarification of the process of the message & inclusion of requirement tables. References to DENM messages removed. Reference and applicable documents added. 	Small group of experts.
17/06/2022	4.23	J.DIEZ	<ul style="list-style-type: none"> Remarks from Arthur Fraisse taken into account. 	COCSIC Studies
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05/05/2023	4.31	A.LE CALVEZ	<ul style="list-style-type: none"> Retroaction 1546: Requirement ID in duplicate Retroaction 1574: Modification of textContainer size to match with IVIM format in C-Roads PF 2.0 	Draft
20/06/2023	4.40	A.LE CALVEZ	Remarks from COCSIC integrated causing the correction for C3 use case of the 2 following retroactions: <ul style="list-style-type: none"> Retroaction 1486: Correction of step-by-step diagram Retroaction 1623: ISO/ASN1 disagreement on serviceCategoryCode Suppression of changes on retroaction 1574: back to 21 characters. Suppression of J. DIEZ comments.	COCSIC
06/09/2023	4.41	A.LE CALVEZ	Retroaction 1658: Correction of the max number of Gic possible for message in alternate screening.	COCSIC

			Retroaction 1653: Corrections to follow 2.4.1.2_M_Master v4.120. Adding of iviType in Text container for prioritization. Retroaction 1657: serviceCategoryCode is danger warning.	
26/09/2023	4.42	A.LE CALVEZ	Following September COCSIC-Studies review of retroactions. Retroactions 1658 and 1657 not yet validated: suppression of modifications.	
27/09/2023	4.50	Thiwiza BELLACHE	Retroaction n°1653 validated following CE of sept.	COCSIC Studies
25/04/2024	4.51	A.LE CALVEZ	Integration of validated retroactions: <ul style="list-style-type: none"> • Retroaction n°1486: Diagram legend centered. • Retroaction n°1657: 2nd pictogram in example is dangerWarning:11 • Retroaction n°1658: Up to 2 GicPart possible for alternate screening IVIM with 2 different traffic sign information. Modification of 2.4.1.2_M_C3-VMSContent for the VMS publications with 2 pages. Modification of 2.4.1.2_M_C3-AlternateVMS as a display requirement to complete VMS content at the V-ITS-S point of view (alternate screening). For management of information in several language: new requirement 2.4.1.2_M_C3-MultipleLanguagesInformation Modification of requirements Line feed indicated with 0x0A. • Retroaction n°1714: No reference to 2.4.1.4 in a 2.4.1.2 specification. • Retroaction n°1729: vehicle Characteristics not used in VMS. 	COCSIC Studies
24/06/2024	4.60	Younes BOUCHAALA AMO DMR	Diffusion COCSIC Studies.	COCSIC Studies.

Black highlighted text are problem with standards.

The following legend is used on the document tables:

Standard / Field: if status is mandatory in standard: **bold**, If optional: *italic*.

Profile / Status:

- If mandatory: **✓**
- If optional in standard:
 - Used (**U**) when always used.
 - Not used (**N**) when never used.
 - Sometimes (**S**) when it depends.

Profile / Content: important settings or information are in ***bold italic red underline***

Quality rules

Reference to the version administration

Version number to be composed of 3 digits > vR.XY

- **R** corresponds to the release number: it is upgraded each time SC Studies validates the diffusion of a new release,
- **X** is the major version number: it is upgraded each time SC Studies validates the deliverable,
- **Y** is the minor version number: it is upgraded each time a contributor changes anything.

Once the deliverable is approved, its version number is upgraded from vR.XY to vR.(X+1)0

Once the deliverable is release, its version number is upgraded from vR.XY to v(R+1).00

As illustration:

- 0.03 > Work in progress version
- 0.10 > Del. Approved by SC Studies but not released
- 2.00 > Del. approved & released (in release 2)
- 2.05 > Del. Updated - in progress version

Requirements identification & traceability

In this document, the following verbal forms are used to indicate requirements: **Shall / Shall not**

Recommendations shall be indicated by the verbal forms: **Should / Should not**

Permissions shall be indicated by the verbal forms: **May / May not**

Possibility and capability shall be indicated by the verbal forms: **Can / Cannot**

Inevitability used to describe behaviour of systems beyond of the scope of this del. shall be indicated by: **Will / Will not**

Facts shall be indicated by the verbal forms: **Is / Is not**

In the table here below:

2.4.X.XX > is the number given to the deliverable (e.g. 2.4.4.8)

YYYY > for digit are given to identifying which component/entity the requirement is addressing (e.g. LTCA for long term certificate authority)

ZZZ > is the numeration of the requirement

ID	2.4.X.XX-YYYY-ZZZ
Component(s)	(e.g.) Vru-ITS-S, Vro-ITS-S, R-ITS-S, PKI
Requirement	(e.g.) An ITS station SHALL be able to request and get a Long-Term Certificate (LTC) from the SCOOP Public Key Infrastructure (PKI).
Acceptance	(e.g.) CA1: Vru-ITS-S sends a LTC request to the LTCA CA2: R-ITS-S relays the LTC request CA3: The LTCA verifies the request and sends a response CA4: The R-ITS-S relays the response CA5: The response is received by the Vru-ITS-S and is valid
Additional information	

Acronyms & abbreviations

eVMS	embedded VMS
HMI	Human-Machine Interface
I2V	Infrastructure To Vehicle
IVIM	Infrastructure to Vehicle Information Message
ITS-G5	ITS-G5 is a European standard for ad-hoc short-range communication of vehicles among each other (V2V) and with Road ITS Stations (V2I). ITS-G5 refers to the approved amendment of the IEEE 802.11 (standard IEEE 802.11p). This technology (possibly others) uses the 5.9 GHz frequency band to support safety- and non-safety ITS applications. In this document ITS-G5 stands for IEEE802.11p/ETSI ITS-G5.
Nfr-ITS-S	French National ITS Station
N-ITS-S	National ITS Station
PF	Platform
PFro	Road operator Platform
R-ITS-S	Roadside ITS Station
TCC	Traffic Control Center
TMS	Traffic Management System
UC	Use Case
V-ITS-S	Vehicle ITS Station
VMS	Variable Message Sign

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1. Documents

1.1 Reference documents

Id.	Reference	Version	Title / Content
[DR1]	2.4.3.2_M-road operator platform	4.60	Detailed functional specifications of PFro
[DR2]	2.4.1_M Common specifications	0.30	Functional and technical hybrid architecture – Common specification

1.2 Applicable documents

Id.	Reference	Version	Title / Content
[DA1]	2.4.1.2_M_Master_I2V	4.90	Master technical specifications for I2V use cases

2. Figure and example of IVI message

The figure below is made to clarify some data elements description for the eVMS use case.

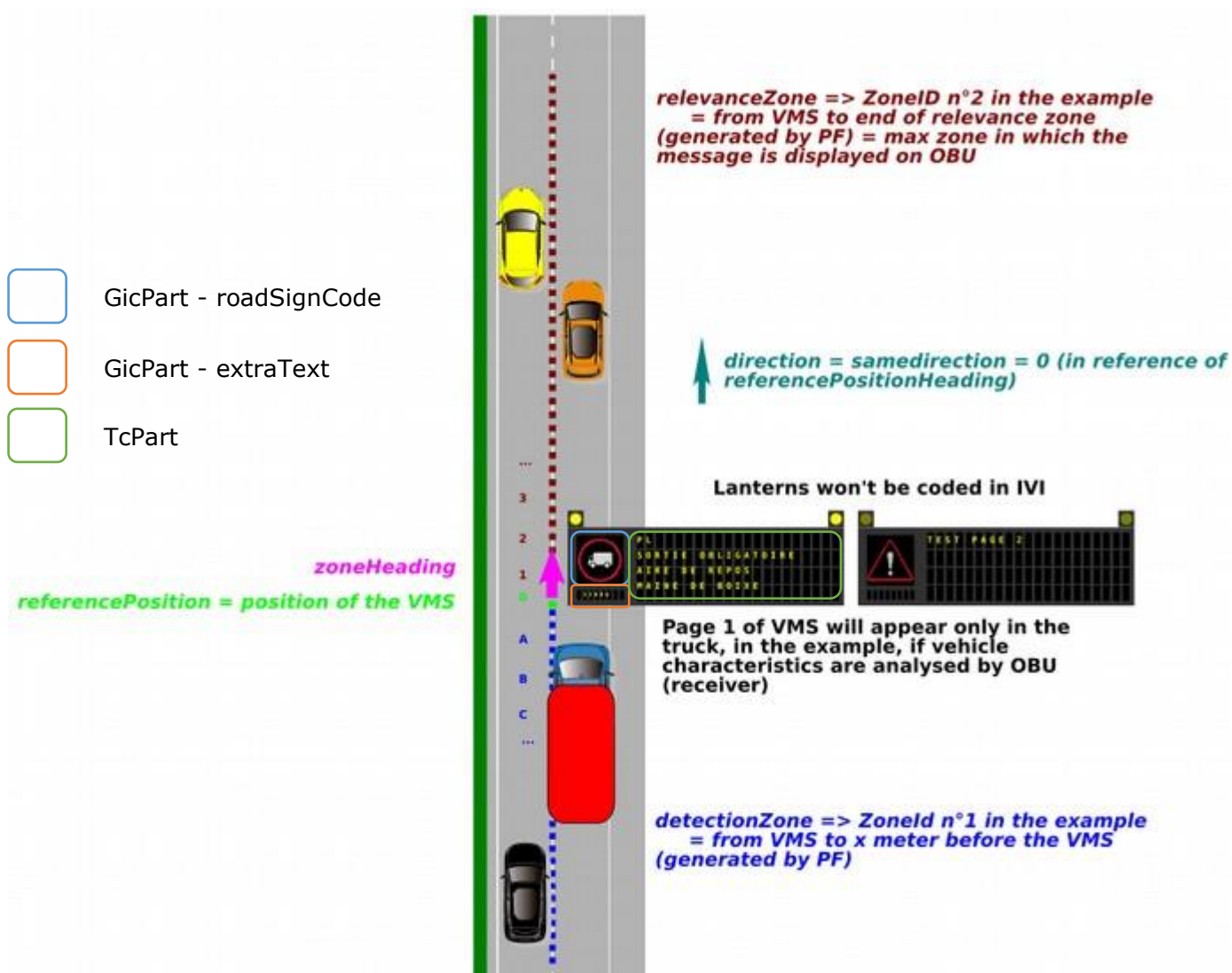


Figure 1: VMS example illustration with only one “detectionZone” and “relevanceZone”

In this figure, VMS **can** be real or virtual (no difference). There are not two VMS but only a 2 pages VMS (alternate screening).


```

#Description of IVI for FR for eVMS UC (I2V)
#Represents the example of the figure 1 of the document
#Commented by A.AUDIGE & J.DIEZ (DIR A & DGITM)
header {
    protocolVersion currentVersion=2,
    messageID ivi=6,
    stationID 4711
},
ivi {
    mandatory {
        serviceProviderId {
            countryCode 10110 01010, #means 'FR'
            issuerIdentifier 10 033 #DIRA
        },
        iviIdentificationNumber 123456789,
        timeStamp 352425600000,
        validFrom 352447200000,
        validTo 352447200010,
        iviStatus new=0
    },
    optional {
        glc : { #GLC = geographic location container = description of reference point and zones (2 zones in this example)
            referencePosition {
                latitude 481540527, #latitude of point "0" (VMS) =x0
                longitude 164801006, #longitude of point "0" (VMS) =y0
                positionConfidenceEllipse {
                    semiMajorConfidence unavailable=0,
                    semiMinorConfidence unavailable=0,
                    semiMajorOrientation unavailable=0
                },
                altitude {
                    altitudeValue unavailable=800001, #But can be provided if known by the system
                    altitudeConfidence unavailable=15
                }
            },
            parts {
                {
                    zoneId 1, #description of a zone.
                    zoneHeading {
                        headingValue wgs84East(900), #Heading of the road at the referencePosition
                        headingConfidence unavailable=127
                    }
                    zone segment : {
                        line deltaPositions : {
                            {
                                deltaLatitude -6637, #exemple = xA-x0
                                deltaLongitude 9289 #exemple = yA-y0
                            },
                            {
                                deltaLatitude -5379, #exemple = xB-xA
                                deltaLongitude 10567 #exemple = yB-y0
                            },
                            ... # number of points needs to be defined according to DA1 §2.3, line
                        }
                    }
                },
                {
                    zoneId 2, #description of a zone.
                    zoneHeading {
                        headingValue wgs84East(900), #Heading of the road at the referencePosition
                        headingConfidence unavailable=127
                    }
                    zone segment : {
                        line deltaPositions : {
                            {
                                deltaLatitude 7591, #exemple = x1-x0
                                deltaLongitude -7420 #exemple = y1-y0
                            },
                            {
                                deltaLatitude 8278, #exemple = x2-x1
                                deltaLongitude -5379 #exemple = y2-y1
                            },
                            ... # number of points needs to be defined according to DA1 §2.3, line
                        }
                    }
                }
            }
        }
    }
}

```

```

},
gic : { #GIC = general Ivi container = description of the traffic signs of the VMS => not always present. If there is no traffic sign on the VMS,
there is no gic.
    { #First container = page 1 of the VMS
        detectionZonelds {1},
        relevanceZonelds {2},
        direction sameDirection=0, #To reference toward zoneHeading
        iviType regulatoryMessages=1,
        vehicleCharacteristics { #Example and optional. If present, must be treated by OBU to check if vehicle is
concerned by the message / the page.
            {
                train {
                    ranges {
                        {
                            comparisonOperator greaterThan=0,
                            limits vehicleWeightLimits : {
                                vehicleMaxLadenWeight 0,
                                vehicleTrainMaximumWeight 3500,
                                vehicleWeightUnladen 0
                            }
                        }
                    }
                }
            }
        },
        roadSignCodes {
            {
                code iso14823 : {
                    pictogramCode {
                        serviceCategoryCode : trafficSignPictogram = regulatory, #See
                        pictogramCategoryCode {
                            nature 4, #See TS14823:2017 table
                            serialNumber 21 #See TS14823:2017 table
                        }
                    }
                }
            }
        }
    }
    #Below are attributes for a speed limit panel (5 / 57) as an example. It's not
appropriate for coded current example. That's why it's not activate.
    {
        extraText { #Only used if there is text associated to the panel(s), in this case the number of elements is equal to the
number of elements in roadSignCodes. The first extraText is the text associated to the first RSCode, the second extraText is the text associated to the second
RSCode, and so on.
            {
                layoutComponentId 1, #is always 1
                language 10110 01010, #means 'FR'
                textContent 3200m #only the text associated to the panel (under it on the example on figure 1)
            }
        }
    }
    #Note : flash (lanterns) can't be coded in Ivi. Not really needed.
},
{ #Second container = page 2 of the VMS, only if there are several pages, as in the example.
    detectionZonelds {1},
    relevanceZonelds {2},
    direction sameDirection=0,
    iviType regulatoryMessages=0, #Example.
    roadSignCodes {
        {
            code iso14823 : {
                pictogramCode {
                    serviceCategoryCode trafficSignPictogram : dangerwarning:11,
                    pictogramCategoryCode {
                        nature 9,
                        serialNumber 99
                    }
                }
            }
        }
    }
    #No extraText needed as no text is associated to the road sign of the second page.
}
}
tc : { #TC = text container = description of the text of the VMS => always present
    { #First container = page 1 of the VMS
        detectionZonelds {1},
        relevanceZonelds {2},
        direction sameDirection=0, #To reference toward zoneHeading
        text { #maximum of 4 lines of text. Here, layoutComponentId is optional so not used.
            {
                language 10110 01010, #means 'FR'
                textContent PL #Line n°1 of the VMS
            }
            {
                language 10110 01010, #means 'FR'
                textContent SORTIE OBLIGATOIRE #Line n°2
            }
        }
    }
}

```

```

    }
    {
        language 10110 01010, #means 'FR'
        textContent AIRE DE REPOS #Line n°3
    }
    {
        language 10110 01010, #means 'FR'
        textContent MAINE DE BOIXE #Line n°4.
    }
    data 415 #empty string as mandatory in standard and not useful.
}
{ #Second container = page 2 of the VMS
    detectionZonelds {1},
    relevanceZonelds {2},
    direction sameDirection=0, #To reference toward zoneHeading
    text { #maximum of 4 lines of text. Here, layoutComponentId is optional so not used.
        {
            language 10110 01010, #means 'FR'
            textContent TEST PAGE 2 #Line n°1 of the VMS
        }
        data 415 #empty string as mandatory in standard and not useful.
    }
}
}
}
}
}

```

Figure 2: eVMS IVI message associated with figure above

3. Step by step diagram

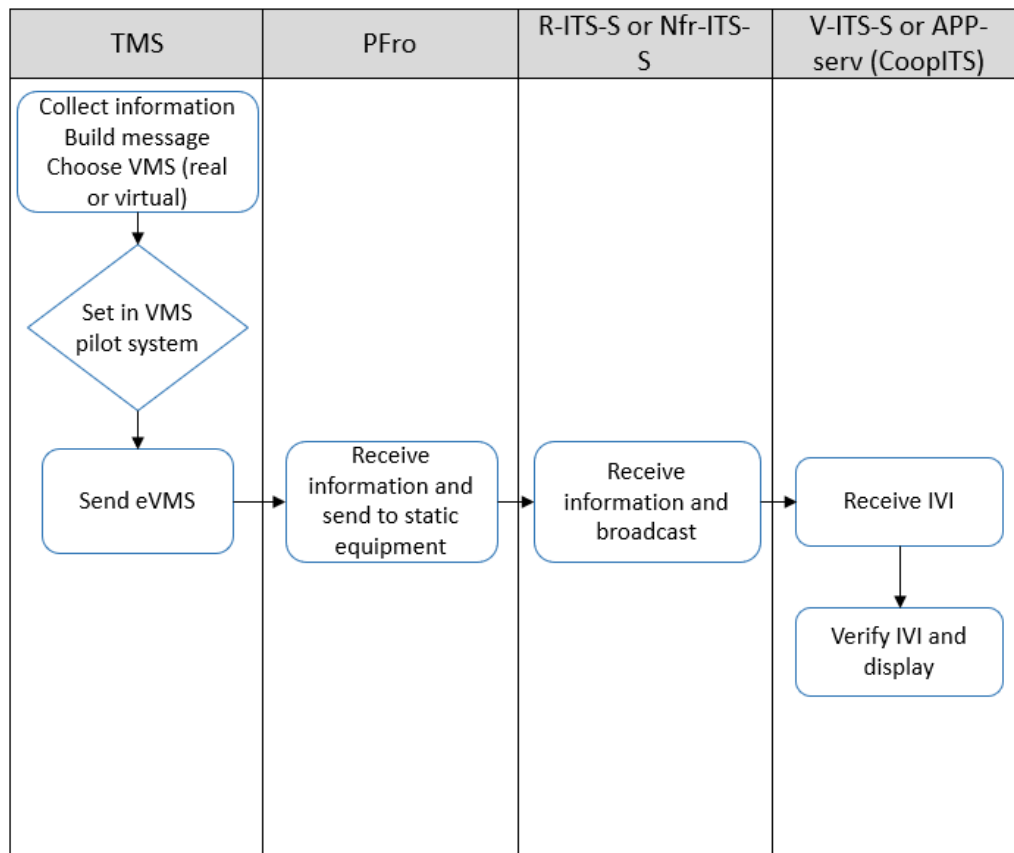


Figure 3: Functional description of C3 use case for V-ITS-S

Collect information - Build message - Choose VMS (real or virtual):

Generally, traveller information displayed on VMS, installed on the road, **may** be generated as a result of a planned or unplanned event, which is programmed or scheduled by operations personnel as presented in figure below.

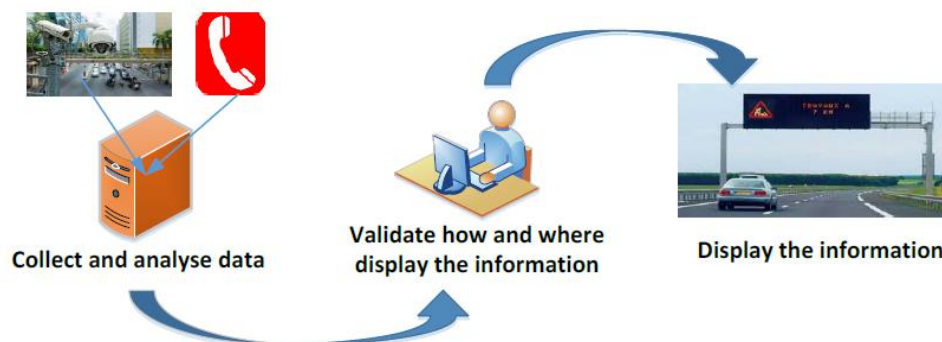


Figure 4: Classic VMS operations

The present use case allows to display on-board information of real VMS (usual VMS present on field) or virtual VMS (non-existing VMS on field).

ID	2.4.1.2_M_C3-BuildMessage (1)
Component(s)	TMS
Requirement	The road operators should define their policy for virtual VMS localization (with virtual static location) and, if possible, set it in their VMS management tool (e.g. with a virtual flag).
Acceptance	
Additional information	Road operators can also choose not to use this virtual possibility and thus not integrate any virtual VMS.

ID	2.4.1.2_M_C3-RelevanceZoneLength (1)
Component(s)	TMS
Requirement	The road operators may set the length of the relevance zone at a default value of 1 km.
Acceptance	
Additional information	If the road operator wants to set it to another length, it can do so, especially if there is another VMS in the following kilometer.

Set in VMS pilot system:

ID	2.4.1.2_M_C3-VMSCContent (2)
Component(s)	TMS
Requirement	FR consortium choice (based on IISR9) is that a VMS shall contain at most 2 pages, with on each page maximum: <ul style="list-style-type: none"> one pictogram, eventually with sub-text 9 characters max (GIC part). one text (TC part)
Acceptance	
Additional information	

ID	2.4.1.2_M_C3-MaximumTextSizes (1)
Component(s)	TMS
Requirement	FR consortium choice is that the text area of the VMS may contain (as IISR9 application) at most 4 lines of 21 characters each.
Acceptance	
Additional information	The standard of the message allows more characters but the choice was made regarding existing real VMS and displaying possibilities on VMS.

ID	2.4.1.2_M_C3-MultipleLanguagesInformation (1)
Component(s)	TMS
Requirement	If an information is expected to be displayed in several languages, the TMS should set a 2 pages VMS with one language on each page.
Acceptance	
Additional information	In this project, languages cannot be managed as expected by C-Roads (using different TextContent in the same TcPart).

ID	2.4.1.2_M_C3-SettingsVMS (1)
Component(s)	TMS
Requirement	TMS shall set: <ul style="list-style-type: none"> VMS (real or virtual) that displays information in VMS pilot system the type of message displayed (Datex II type). the start time if not immediate the end time, if known.
Acceptance	
Additional information	

Send eVMS to R-ITS-S or Nfr-ITS-S:

ID	2.4.1.2_M_C3-SendeVMSfromTCC (1)
Component(s)	TMS
Requirement	As the PFro will admit only Datex II format in entrance, road operators shall develop an appropriate interface between their existing tool (VMS pilot system) and the PFro, if needed (e.g. conversion from LCR to Datex II or another format to Datex II).
Acceptance	
Additional information	Note that PFro shall not send planned message which is not active to R-ITS-S or N-ITS-S.

The PFro adapts the Datex II coming from the TMS for the R-ITS-S and Nfr-ITS-S. The data for IVI/detectionZone(s) and the data for IVI/relevanceZone are calculated from the relevance area of the VMS. (see [DR1](#) § 3.3.4.6.3)

Receive information and broadcast (R-ITS-S or Nfr-ITS-S):

The R-ITS-S or Nfr-ITS-S constructs an IVI with the DATEX II data given by the PFro.

ID	2.4.1.2_M_C3-ReceiveAndBroadcast (1)
Component(s)	R-ITS-S or Nfr-ITS-S
Requirement	Canal CCH shall be used (see DR3 for more details).
Acceptance	
Additional information	GeoNetwork dissemination and forwarding are described in DA1 .

Receive IVI (vehicle):

ID	2.4.1.2_M_C3-AlternateVMS (2)
Component(s)	V-ITS-S
Requirement	When the V-ITS-S receives an information message containing 2 pages (see 2.4.1.2_M_C3-VMSCContent), the display should alternate between first and second information.
Acceptance	
Additional information	

ID	2.4.1.2_M_C3-ReceiveIVI (1)
Component(s)	V-ITS-S
Requirement	<p>Architecture options are not treated in this document (see DR3).</p> <p>Whatever route taken by the message, duplicates of the same IVI messages shall be recognizable thanks to the couple of elements, which should be identical for all duplicates (as presented below in profile):</p> <ul style="list-style-type: none"> - serviceProviderId+ivIdentificationNumber - timestamp <p>Those elements are the key to identify an IVI from another.</p>
Acceptance	CA1: serviceProviderId+ivIdentificationNumber and timestamp do not differ when the same IVIM is following G5 and cellular paths.
Additional information	That allows the vehicle to treat one message or the other, but not both of them as they contain the exact same information.

Verify IVI and display IVI:

The process of vehicle receiver **can** be as followed:

1. The vehicle checks serviceProviderID+iviIdentificationNumber and timestamp to verify if the information is already known, if it is new or if it is an update.
2. The vehicle checks validFrom and validTo to determine if the information is currently applicable.
3. The vehicle checks referencePosition to determine how far from its position the VMS is.
4. The vehicle checks the zones described in the message to determine whether it is concerned by the information. It can do this analysis by different means (using detectionZones, relevanceZone or zoneHeading for example) depending on the OEM's implementation.
5. The vehicle checks presence of Text container. If true, it's an eVMS, real or virtual.
6. The prioritization of the messages **can** be done depending on the iviType. However, it is only provided when a traffic sign is sent.
7. HMI displays the message from referencePosition point or before (pre-awareness is recommended for this UC) and displays it all along the relevanceZone.
8. If the eVMS message include 2 pages (alternate information on the VMS), they **can** be displayed all together (if enough place in HMI) or through a switching routine or else (car manufacturers domain).

4. Information profile – Message description (in details)

ID	2.4.1.2_M_C3 – IVIProfile (2)
Component(s)	R-ITS-S, Nfr-ITS-S
Requirement	The IVIM transmitted by the R-ITS-S or N-ITS-S shall respect what's expected in the following table (IVIM profile for C3).
Acceptance	Referring to the "Status for the UC" column in the table : CA1: All mandatory ✓ DE and used U DE shall be present in the message emitted, with the defined values. CA2: All optional S DE can be present in the message emitted. See expected values in the table when defined. CA3: All not used X DE shall be absent in the message emitted.
Additional information	At reception, V-ITS-S receiving a message with not used X DE shall not discard the message.

IVI Master_I2V status		Profile C3 (eVMS)		
Field	Status (Master)	Status For the UC	Comments	Value set
Header				
protocolVersion	✓	✓	See Master_I2V document / IVI	(is 2)
messageID	✓	✓	See Master_I2V document / IVI	(is 6)
stationID	✓	✓	See Master_I2V document / IVI	
Management container				
serviceProviderId	✓	✓	See Master_I2V document / IVI	by PF
iviIdentification Number	✓	✓	See Master_I2V document / IVI	by PF
timestamp	✓	✓	See Master_I2V document / IVI	by PF
validFrom	S	S	See Master_I2V document / IVI	from TMS
validTo	S	U	See Master_I2V document / IVI With a default value of 3600s (1 hour) for this UC.	from TMS or by PF
connectedIviStructures	S	X	Not used in eVMS UC.	
iviStatus	✓	✓	See Master_I2V document / IVI	by PF
connectedDenms	S	X	Not used in eVMS UC.	
Geographic Location Container		✓		
referencePosition	✓	✓	Position of the VMS on the road, either real or virtual. Transverse position is in the middle of the carriageway.	by PF
referencePosition Time	X			
referencePosition Heading	X			
referencePositionSpeed	X			
parts	✓	✓	See 5 next lines	
>zoneId	✓	✓	One zone Id may be used to define the "detection zone", approach of the VMS and one may be used to define the "relevance zone" in which the VMS is relevant. At least one detection zone shall be provided, and exactly one relevance zone. If there are more zones in which the VMS is relevant, another IVI shall be built. By default, the length of those relevance zones is set to 1 km by FR choice (seems pertinent). If there is another VMS (or eVMS) within this distance, a shortened distance is recommended. Anyway, if the road operator wants to set other length, it is authorized to do so.	by PF
>laneNumber	X			
>zoneExtension	X			
>zoneHeading	✓	✓	Heading direction of the carriageway concerned by the VMS.	by PF
>zone	✓	✓	See Master_I2V document / IVI	by PF

IVI Master_I2V status		Profile C3 (eVMS)		
Field	Status (Master)	Status For the UC	Comments	Value set
General IVI Application Container		S	Only used if there is a traffic sign on the VMS. If the VMS is on one page with pictogram, only one container is included. If it is a two pages VMS (alternate screening) with a second traffic sign pictogram, two containers are included. Maximum two GicPart in a single IVI message.	
detectionZonelds	v	v	See Master_I2V document / IVI	by PF
its-rrid	x			
relevanceZonelds	v	v	See Master_I2V document / IVI	by TMS or PF
direction	v	v	See Master_I2V document / IVI	is 0
driverAwarenessZonelds	x			
minimumAwarenessTime	x			
applicableLanes	S	x	eVMS UC concerns all lanes.	
iviType	v	v	Single conversion of VmsMessageInformationTypeEnum of Datex II given by TCC: situation warning => "0" instruction or message => "1" traffic management or travel time => "2" campaign message or future information => "4" date time or temperature => no IVI conversion, not emitted	is 0, 1, 2, 3 or 4
iviPurpose	x			
laneStatus	x			
vehicleCharacteristics	S	x	Not used in VMS as the information applies to all vehicles.	
driverCharacteristics	x			
layoutId	x			
preStoredLayoutId	x			
roadSignCodes	v	v	One road sign code shall be given per GicPart.	by PF
extraText	S	S	See Master_I2V document / IVI It can be 9 characters maximum.	by PF
Road Configuration Container		x	Not used as applicableLanes is not used and it is not the goal of the use case to describe the topology of the area.	
Text Container		U	This container is used to send text information. If the VMS is on one page, only one container is included. If it is a two pages VMS (alternate screening), two containers are included to report the text of each one of the pages. Maximum two TcPart in a single IVI message.	
detectionZonelds	v	v	See Master_I2V document / IVI	by PF
revelanceZonelds	v	v	See Master_I2V document / IVI	by TMS or PF
direction	v	v	See Master_I2V document / IVI	is 0
driverAwarenessZonelds	x			
minimumAwarenessTime	x			
applicableLanes	S	x	eVMS UC concerns all lanes.	
iviType	v	v	Single conversion of VmsMessageInformationTypeEnum of Datex II given by TCC: situation warning => "0" instruction or message => "1" traffic management or travel time => "2" campaign message or future information => "4" date time or temperature => no IVI conversion, not emitted Same as in GIC if the container is present.	is 0, 1, 2, 3 or 4
laneStatus	S	x	Not filled as applicableLanes is absent.	
vehicle Characteristics	S	S	Optionally provided when the traffic sign concerns specific type of vehicles. See Master_I2V / IVI	
text	v	v	See Master_I2V document / IVI. This data frame is where the text information of the VMS is given. It can contain a text of at most 4 lines of 21 characters. Line feed can be indicated in the text content using the hex character 0x0A.	by PF

IVI Master_I2V status		Profile C3 (eVMS)		
Field	Status (Master)	Status For the UC	Comments	Value set
data	✓	✓	See Master_I2V document / IVI	Set to ⁴¹⁹