

DATEX II profile for traffic signs (dynamic part)

ASFINAG

Version 00-01-00

A.1 Overview

ASFINAG provides DATEX II traffic information of Austrian motorways for service providers and other interested institutions. This profile describes the message content for the dynamic part of traffic signs using the VMSPublication. There is a second document describing the static information.

ASFINAG specific documentation (for example the basis of computation) is accentuated in colour.

A.2 Data Dictionary for "ASFINAG traffic signs dynamic part"

A.2.1 "VmsMessage" package

A.2.1.1 "VmsMessage" package classes

Class name	Designation	Definition	Stereotype	Abstract
VmsMessage	VMS message	A message displayed on a VMS which may comprise one or more sequentially displayed text pages and/or pictograms with supplementary details. When in a sequence of displayed messages sequencing of text pages and pictograms within a message are prohibited.		no
VmsPictogram	VMS pictogram	A main pictogram displayable on the VMS panel. Note a main pictogram may have an associated supplementary panel which may itself contain a further pictogram and line of text.		no
VmsPictogramDisplay Area	VMS pictogram display area	An area on a VMS used for the display of pictograms and associated supplemental information or instructions.		no
VmsSupplementaryPanel	VMS supplementary panel	A panel which may display information or a regulatory instruction which is supplemental to the associated pictogram, comprising either an additional line of text or a pictogram or both.		no
VmsSupplementaryPictogram	VMS supplementary pictogram	An additional pictogram that is displayed in the panel which is supplemental to the associated pictogram display.		no
VmsText	VMS text	A page of text (comprising one or more ordered lines) that are displayed simultaneously on the VMS. Where more than one page is defined these are sequentially displayed according to their "pageNumber".		no
VmsTextLine	VMS text line	A single line of text on a text display area or supplementary panel.		no

Table 1— Classes of the "VmsMessage" package

A.2.1.2 "VmsMessage" package association roles

Class name	Role name	Designation	Definition	Multiplicity	Target
VmsMessage	textPage	Text page		1..1	VmsText
VmsSupplementaryPanel	vmsSupplementaryText	VMS supplementary text	One line of text displayed in the panel which is supplemental to the pictogram display.	0..1	VmsTextLine

Table 2— Associations of the "VmsMessage" package

A.2.1.3 "VmsMessage" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
VmsMessage	codedReasonForSetting	Coded reason for setting	The reason, in terms of a high level coded classification, why the sign has been set.	0..1	CodedReasonForSettingMessageEnum
	messageSetBy	Message set by	The organisation or authority which set the message currently being displayed.	0..1	MultilingualString
	setBySystem	Set by system	Indicates whether the message has been set automatically by a system. True = automatically set.	0..1	Boolean
	timeLastSet	Time last set	The date/time at which the sign was last set.	1..1	DateTime
	vmsMessageInformationType	VMS message information type	Type of information being displayed.	0..*	VmsMessageInformationTypeEnum
VmsPictogram	additionalPictogramDescription	Additional pictogram description	Additional description of the pictogram.	0..1	MultilingualString
	distanceAttribute	Distance attribute	Value of distance that is displayable as part of the pictogram (e.g. for keep minimum safe distance).	0..1	MetresAsNonNegativeInteger
	heightAttribute	Height attribute	Value of height that is displayable as part of the pictogram (e.g. for a vehicle height restriction).	0..1	MetresAsFloat
	lengthAttribute	Length attribute	Value of length that is displayable as part of the pictogram (e.g. for a vehicle length restriction).	0..1	MetresAsFloat
	pictogramCode	Pictogram code	The code of the pictogram from the pictogram code list referenced in the VmsPictogramDisplayCharacteristics for the VMS that is identified in the relevant VMS Unit table.	0..1	String
	pictogramDescription	Pictogram description	Description of the (main) displayed pictogram.	0..*	VmsDatexPictogramEnum
	pictogramFlashing	Pictogram flashing	Indication of whether the pictogram is flashing.	0..1	Boolean

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	pictogramUrl	Pictogram url	Reference to a URL from where an image of the displayed pictogram can be obtained.	0..1	Url
	presenceOfRedTriangle	Presence of red triangle	Indication of the presence of a red triangle around the pictogram, often used to indicate imminence, typically within 2km, of signed danger.	1..1	Boolean
	speedAttribute	Speed attribute	Value of speed that is displayable as part of the pictogram (e.g. for a maximum speed limit).	0..1	KilometresPerHour
	viennaConventionCompliant	Vienna convention compliant	Indicates that the displayed pictogram conforms with the Vienna Convention defined pictogram list as modified by "UNECE Consolidated Resolution on Road Signs and Signals".	0..1	Boolean
	weightAttribute	Weight attribute	Value of weight that is displayable as part of the pictogram (e.g. for a maximum weight restriction).	0..1	Tonnes
	weightPerAxleAttribute	Weight per axle attribute	Value of axle weight that is displayable as part of the pictogram (e.g. for a maximum axle weight restriction).	0..1	Tonnes
	widthAttribute	Width attribute	Value of width that is displayable as part of the pictogram (e.g. for a vehicle width restriction).	0..1	MetresAsFloat
VmsSupplementaryPanel	supplementaryMessageDescription	Supplementary message description	Free text description of the message that is displayed in the panel which is supplemental to the main pictogram display.	0..1	MultilingualString
VmsSupplementaryPictogram	additionalSupplementaryPictogramDescription	Additional supplementary pictogram description	Additional free text description of the supplementary pictogram.	0..1	MultilingualString
	pictogramFlashing	Pictogram flashing	Indication of whether the pictogram is flashing.	0..1	Boolean

Class name	Attribute name	Designation	Definition	Multiplicity	Type
	supplementaryPictogramCode	Supplementary pictogram code	The code of the supplementary pictogram from the supplementary pictogram code list referenced in the VmsSupplementaryPanelCharacteristics for the VMS that is identified in the relevant VMS Unit table.	0..1	String
	supplementaryPictogramDescription	Supplementary pictogram description	Description of the supplementary displayed pictogram.	0..1	VmsDatexSupplementalPictogramEnum
	supplementaryPictogramUrl	Supplementary pictogram url	Reference to a URL from where an image of the displayed supplementary pictogram can be obtained.	0..1	Url
VmsText	vmsLegendCode	VMS legend code	The code of the legend/text from the legend code list referenced in the VmsTextDisplayCharacteristics.	0..1	String
VmsTextLine	vmsTextLine	VMS text line	A free-text string that is displayed on a single line on the text display area.	1..1	String
	vmsTextLineHtml	VMS text line html	The displayed line of text defined by an HTML string showing text formatting tags.	0..1	String
	vmsTextLineLanguage	VMS text line language	The language of the displayed line of text, specified by an ISO 639-2 3-alpha code.	0..1	Language

Table 3— Attributes of the "VmsMessage" package

A.2.2 "VmsPublication" package

A.2.2.1 "VmsPublication" package classes

Class name	Designation	Definition	Stereotype	Abstract
VmsPublication	VMS publication	A publication containing the current status and settings of one or more VMS units, each unit controlling one or more individual variable message signs.		no

Table 4— Classes of the "VmsPublication" package

A.2.2.2 "VmsPublication" package association roles

There are no defined association roles in the "VmsPublication" package.

A.2.2.3 "VmsPublication" package attributes

There are no defined attributes in the "VmsPublication" package.

A.2.3 "VmsUnit" package

A.2.3.1 "VmsUnit" package classes

Class name	Designation	Definition	Stereotype	Abstract
Vms	Vms	Provides the current status and settings of the VMS and the currently displayed information. Where a VMS is displaying a sequence or alternating set of messages these are ordered according to the messageIndex qualifier.		no
VmsUnit	VMS unit	Status of a VMS unit which may control one or more variable message signs on a single gantry or on different gantries.		no

Table 5— Classes of the "VmsUnit" package

A.2.3.2 "VmsUnit" package association roles

There are no defined association roles in the "VmsUnit" package.

A.2.3.3 "VmsUnit" package attributes

Class name	Attribute name	Designation	Definition	Multiplicity	Type
Vms	vmsWorking	VMS working	Indicates whether the VMS is usable. Note it may still be usable with minor faults.	1..1	Boolean
VmsUnit	vmsUnitReference	VMS unit reference	A reference to a versioned VMS unit record in a VMS Unit table which defines the characteristics of the VMS unit.	1..1	VersionedReference
	vmsUnitTableReference	VMS unit table reference	A reference to a versioned VMS Unit table.	1..1	VersionedReference

Table 6— Attributes of the "VmsUnit" package

A.3 Data Dictionary of <<datatype>> for "ASFINAG traffic signs dynamic part"

This clause contains the definitions of all data types which are used in the "ASFINAG traffic signs dynamic part".

A.3.1 The <<datatype>> "KilometresPerHour"

A measure of speed defined in kilometres per hour.

A.3.2 The <<datatype>> "MetresAsFloat"

A measure of distance defined in metres in a floating point format.

A.3.3 The <<datatype>> "MetresAsNonNegativeInteger"

A measure of distance defined in metres in a non negative integer format.

A.3.4 The <<datatype>> "Tonnes"

A measure of weight defined in metric tonnes.

A.4 Data Dictionary of <<enumerations>> for "ASFINAG traffic signs dynamic part"

This clause contains the definitions of all enumerations which are used in the "ASFINAG traffic signs dynamic part".

A.4.1 The <<enumeration>> "CodedReasonForSettingMessageEnum"

Coded reasons why a message has been selected for display on the sign.

Enumerated value name	Designation	Definition
campaign	Campaign	VMS is currently selected to display a campaign message.
default	Default	VMS is currently selected to display default information (e.g. time, date, temperature).
operatorCreated	Operator created	Message selected by operator as the result of an unmanaged event or situation.
situation	Situation	Message selected as the result of a situation occurring either on or off the road which may affect road users.
trafficManagement	Traffic management	Message selected as part of the implementation of a traffic management action. This may or may not be part of a specific traffic management or diversion plan.
travelTime	Travel time	VMS is currently selected to display travel times.

Table 7— Values contained in the enumeration "CodedReasonForSettingMessageEnum"

A.4.2 The <<enumeration>> "VmsDatexPictogramEnum"

Types of main pictograms.

Enumerated value name	Designation	Definition
accident	Accident	Accident.
advisorySpeed	Advisory speed	Advisory speed limit.
blankVoid	Blank void	Blank or void.
carriagewayNarrows	Carriageway narrows	The carriageway narrows ahead.
carriagewayNarrowsOnTheLeft	Carriageway narrows on the left	The carriageway narrows ahead from the left.
carriagewayNarrowsOnTheRight	Carriageway narrows on the right	The carriageway narrows ahead from the right.
crossWind	Cross wind	Cross wind.
endOfProhibitionOfOvertaking	End of prohibition of overtaking	End of prohibition of overtaking.
endOfProhibitionOfOvertakingForGoodsVehicles	End of prohibition of overtaking for goods vehicles	End of prohibition of overtaking for goods vehicles.
endOfSpeedLimit	End of speed limit	End of mandatory speed limit.
fog	Fog	Fog.
keepASafeDistance	Keep a safe distance	Keep a safe distance.
keepLeft	Keep left	Keep left.
keepRight	Keep right	Keep right.
laneClosed	Lane closed	Lane closed.
lightSignals	Light signals	Traffic light signals ahead.
looseGravel	Loose gravel	Loose gravel.
maintenanceVehicleInAction	Maintenance vehicle in action	Maintenance vehicles in action.
noEntry	No entry	No entry.
noEntryForGoodsVehicles	No entry for goods vehicles	No entry for goods vehicles.
noEntryForVehiclesCarryingDangerousGoods	No entry for vehicles carrying dangerous goods	No entry for vehicles carrying dangerous goods.
noEntryForVehiclesExceedingXTonnesLadenMass	No entry for vehicles exceeding x tonnes laden mass	No entry for vehicles exceeding X tonnes laden mass.
other	Other	Other than as defined in this enumeration.
otherDangers	Other dangers	Danger ahead of an unspecified nature.
overtakingByGoodsVehiclesProhibited	Overtaking by goods vehicles prohibited	Overtaking prohibited for goods vehicles.

Enumerated value name	Designation	Definition
overtakingProhibited	Overtaking prohibited	Overtaking prohibited.
pollutionOrSmogAlert	Pollution or smog alert	Pollution or smog alert.
roadworks	Roadworks	Roadworks.
slipperyRoad	Slippery road	Slippery road.
snow	Snow	Snow.
snowChainsCompulsory	Snow chains compulsory	The use of snow chains is compulsory.
trafficCongestion	Traffic congestion	Traffic congestion and possible queues.
tunnelClosed	Tunnel closed	Tunnel closed.
twoWayTraffic	Two way traffic	Two way traffic (on a single carriageway).
unevenRoad	Uneven road	Uneven road surface.

Table 8— Values contained in the enumeration "VmsDatexPictogramEnum"

A.4.3 The <<enumeration>> "VmsDatexSupplementalPictogramEnum"

Types of pictograms displayable in supplementary panels (normally below the main pictogram display which it qualifies).

Enumerated value name	Designation	Definition
distanceToTheBeginningofTheApplicationZone	Distance to the beginning of the application zone	Distance to the beginning of the application zone.
lengthOfTheApplicationZone	Length of the application zone	Length of the applicable zone.
other	Other	Other than as defined in this enumeration.
restrictedToBus	Restricted to bus	Restricted to buses.
restrictedToGoodsVehicles	Restricted to goods vehicles	Restricted to goods vehicles.

Table 9— Values contained in the enumeration "VmsDatexSupplementalPictogramEnum"

A.4.4 The <<enumeration>> "VmsMessageInformationTypeEnum"

Types of information displayable on a VMS.

Enumerated value name	Designation	Definition
campaignMessage	Campaign message	Campaign type information which is non time specific that may request certain actions (e.g. "do not drink and drive") or which is intended to influence drivers' behaviour.
dateTime	Date time	Current date and/or time information.
futureInformation	Future information	Information which may inform road users about future situations which potentially may cause congestion or influence future travel plans (e.g. future roadworks, closures, sporting events, public concerts, suspension of train or ferry services).
instructionOrMessage	Instruction or message	Instructions or messages to road users which are relevant at the current time, (e.g. "do not throw out any burning objects" or an Amber alert message).
situationWarning	Situation warning	Information warning of a current situation likely to affect traffic on the road ahead.
temperature	Temperature	Temperature information.
trafficManagement	Traffic management	Information comprising traffic management instructions.
travelTime	Travel time	Travel time information.

Table 10— Values contained in the enumeration "VmsMessageInformationTypeEnum"

A.5 Alphabetical list of attributes

Attribute name	Class name	Designation	Definition	Multiplicity	Type
additionalPictogramDescription	VmsPictogram	Additional pictogram description	Additional description of the pictogram.	0..1	MultilingualString
additionalSupplementaryPictogramDescription	VmsSupplementaryPictogram	Additional supplementary pictogram description	Additional free text description of the supplementary pictogram.	0..1	MultilingualString

codedReasonForSetting	VmsMessage	Coded reason for setting	The reason, in terms of a high level coded classification, why the sign has been set.	0..1	CodedReasonForSettingMessageEnum
distanceAttribute	VmsPictogram	Distance attribute	Value of distance that is displayable as part of the pictogram (e.g. for keep minimum safe distance).	0..1	MetresAsNonNegativeInteger
heightAttribute	VmsPictogram	Height attribute	Value of height that is displayable as part of the pictogram (e.g. for a vehicle height restriction).	0..1	MetresAsFloat
lengthAttribute	VmsPictogram	Length attribute	Value of length that is displayable as part of the pictogram (e.g. for a vehicle length restriction).	0..1	MetresAsFloat
messageSetBy	VmsMessage	Message set by	The organisation or authority which set the message currently being displayed.	0..1	MultilingualString
pictogramCode	VmsPictogram	Pictogram code	The code of the pictogram from the pictogram code list referenced in the VmsPictogramDisplayCharacteristics for the VMS that is identified in the relevant VMS Unit table.	0..1	String
pictogramDescription	VmsPictogram	Pictogram description	Description of the (main) displayed pictogram.	0..*	VmsDatexPictogramEnum
pictogramFlashing	VmsPictogram	Pictogram flashing	Indication of whether the pictogram is flashing.	0..1	Boolean
pictogramFlashing	VmsSupplementaryPictogram	Pictogram flashing	Indication of whether the pictogram is flashing.	0..1	Boolean
pictogramUrl	VmsPictogram	Pictogram url	Reference to a URL from where an image of the displayed pictogram can be obtained.	0..1	Url
presenceOfRedTriangle	VmsPictogram	Presence of red triangle	Indication of the presence of a red triangle around the pictogram, often used to indicate imminence, typically within 2km, of signed danger.	1..1	Boolean
setBySystem	VmsMessage	Set by system	Indicates whether the message has been set automatically by a system. True = automatically set.	0..1	Boolean

speedAttribute	VmsPictogram	Speed attribute	Value of speed that is displayable as part of the pictogram (e.g. for a maximum speed limit).	0..1	KilometresPerHour
supplementaryMessageDescription	VmsSupplementaryPanel	Supplementary message description	Free text description of the message that is displayed in the panel which is supplemental to the main pictogram display.	0..1	MultilingualString
supplementaryPictogramCode	VmsSupplementaryPictogram	Supplementary pictogram code	The code of the supplementary pictogram from the supplementary pictogram code list referenced in the VmsSupplementaryPanelCharacteristics for the VMS that is identified in the relevant VMS Unit table.	0..1	String
supplementaryPictogramDescription	VmsSupplementaryPictogram	Supplementary pictogram description	Description of the supplementary displayed pictogram.	0..1	VmsDatexSupplementalPictogramEnum
supplementaryPictogramUrl	VmsSupplementaryPictogram	Supplementary pictogram url	Reference to a URL from where an image of the displayed supplementary pictogram can be obtained.	0..1	Url
timeLastSet	VmsMessage	Time last set	The date/time at which the sign was last set.	1..1	DateTime
viennaConventionCompliant	VmsPictogram	Vienna convention compliant	Indicates that the displayed pictogram conforms with the Vienna Convention defined pictogram list as modified by "UNECE Consolidated Resolution on Road Signs and Signals".	0..1	Boolean
vmsLegendCode	VmsText	VMS legend code	The code of the legend/text from the legend code list referenced in the VmsTextDisplayCharacteristics.	0..1	String
vmsMessageInformationType	VmsMessage	VMS message information type	Type of information being displayed.	0..*	VmsMessageInformationTypeEnum
vmsTextLine	VmsTextLine	VMS text line	A free-text string that is displayed on a single line on the text display area.	1..1	String
vmsTextLineHtml	VmsTextLine	VMS text line html	The displayed line of text defined by an HTML string showing text formatting tags.	0..1	String
vmsTextLineLanguage	VmsTextLine	VMS text line language	The language of the displayed line of text, specified by an ISO 639-2 3-alpha code.	0..1	Language

vmsUnitReference	VmsUnit	VMS unit reference	A reference to a versioned VMS unit record in a VMS Unit table which defines the characteristics of the VMS unit.	1..1	VersionedReference
vmsUnitTableReference	VmsUnit	VMS unit table reference	A reference to a versioned VMS Unit table.	1..1	VersionedReference
vmsWorking	Vms	VMS working	Indicates whether the VMS is usable. Note it may still be usable with minor faults.	1..1	Boolean
weightAttribute	VmsPictogram	Weight attribute	Value of weight that is displayable as part of the pictogram (e.g. for a maximum weight restriction).	0..1	Tonnes
weightPerAxleAttribute	VmsPictogram	Weight per axle attribute	Value of axle weight that is displayable as part of the pictogram (e.g. for a maximum axle weight restriction).	0..1	Tonnes
widthAttribute	VmsPictogram	Width attribute	Value of width that is displayable as part of the pictogram (e.g. for a vehicle width restriction).	0..1	MetresAsFloat

Table 11- Alphabetical list of attributes

A.6 Alphabetical list of roles

Role name	Class name	Designation	Definition	Multiplicity	Target
textPage	VmsMessage	Text page		1..1	VmsText
vmsSupplementaryText	VmsSupplementaryPanel	VMS supplementary text	One line of text displayed in the panel which is supplemental to the pictogram display.	0..1	VmsTextLine

Table 12- Alphabetical list of roles

A.7 Figures

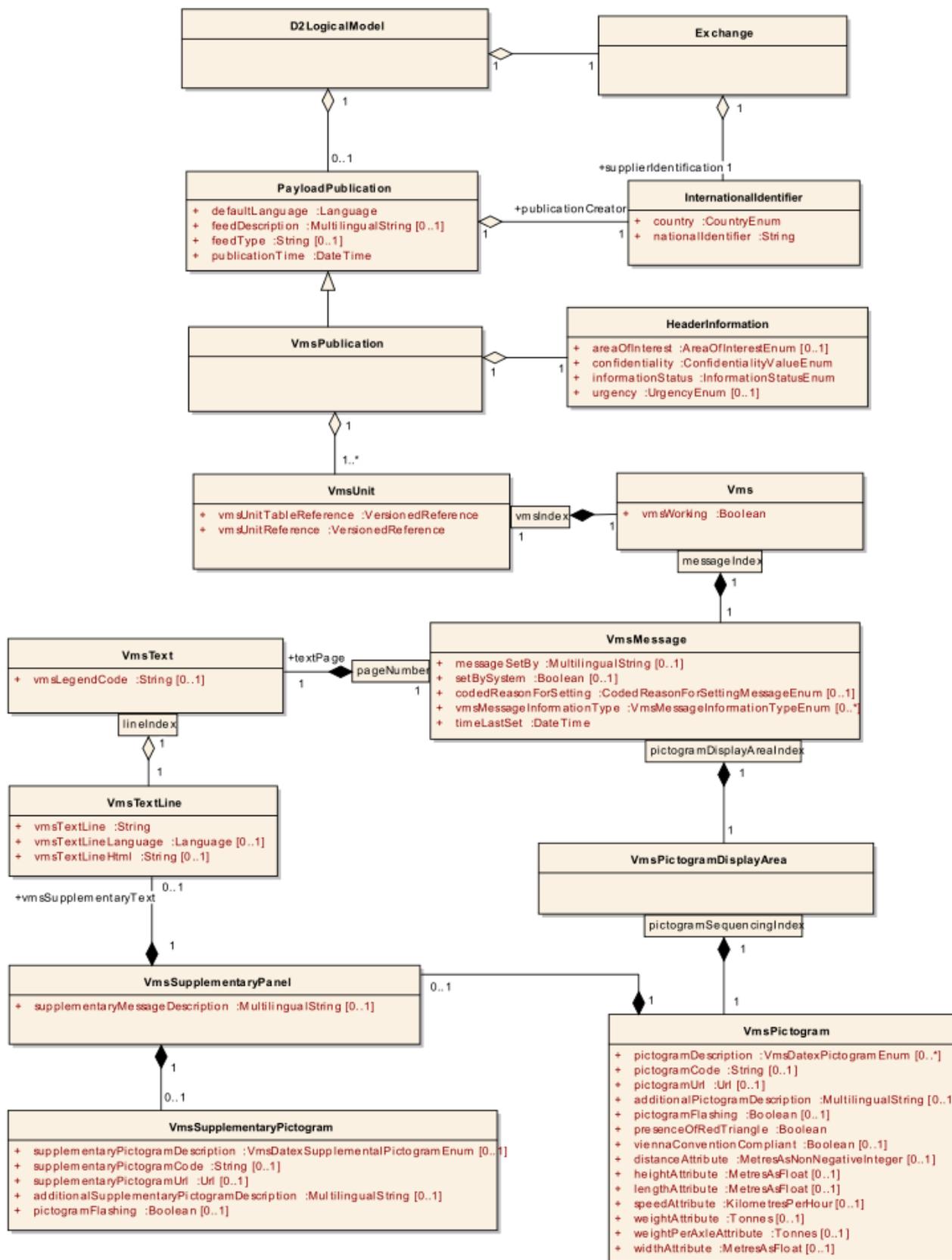


Figure 1: Dynamic part of ASFINAG traffic signs



Describes the additional pictograms which are not part of original DATEX II profile, but part of the current VMSDynamicDataProfile. It is not an extension. The literal values are supplied using the "additionalPictogramDescription" attribute in the "VmsPictogramClass" and/or "additionalSupplementaryPictogramDescription" attribute in the "VmsSupplementaryPictogram" class

Figure 2: Additional pictogram description