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Updated DATEX II content in version 3.1

Variable Message Signs

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Please ask your questions in the Q&A

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Variable Message Signs in DATEX II

- Scope
  - Deliver VMS messages and status information among centres
    - Information Delivery
    - Traffic Management support
- Based on 2 publications:
  - **VMS Table Publication**
    - VMS identification and static characteristics
  - **VMS Status Publication**
    - Dynamic information
      - working status, dynamic characteristics and settings
      - Displayed message(s)

VMS characteristics and definition

VMS, variable message sign - a display panel used to display one or more messages (text, symbols, pictograms or combinations) that can be changed or switched on or off as required.

e.g. structured VMS with specifically designed components for textual information and pictograms

For general purpose or specific usage

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VMS characteristics and definition II

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VMS evolution based on Full Matrix technology

VMS, variable message sign - a display panel used to display one or more messages (text, symbols, pictograms or combinations) that can be changed or switched on or off as required.

textual information and graphics are combined by dynamic VMS configuration

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Special Purpose VMS

- Parking
- + Traffic Information
- Fuel information

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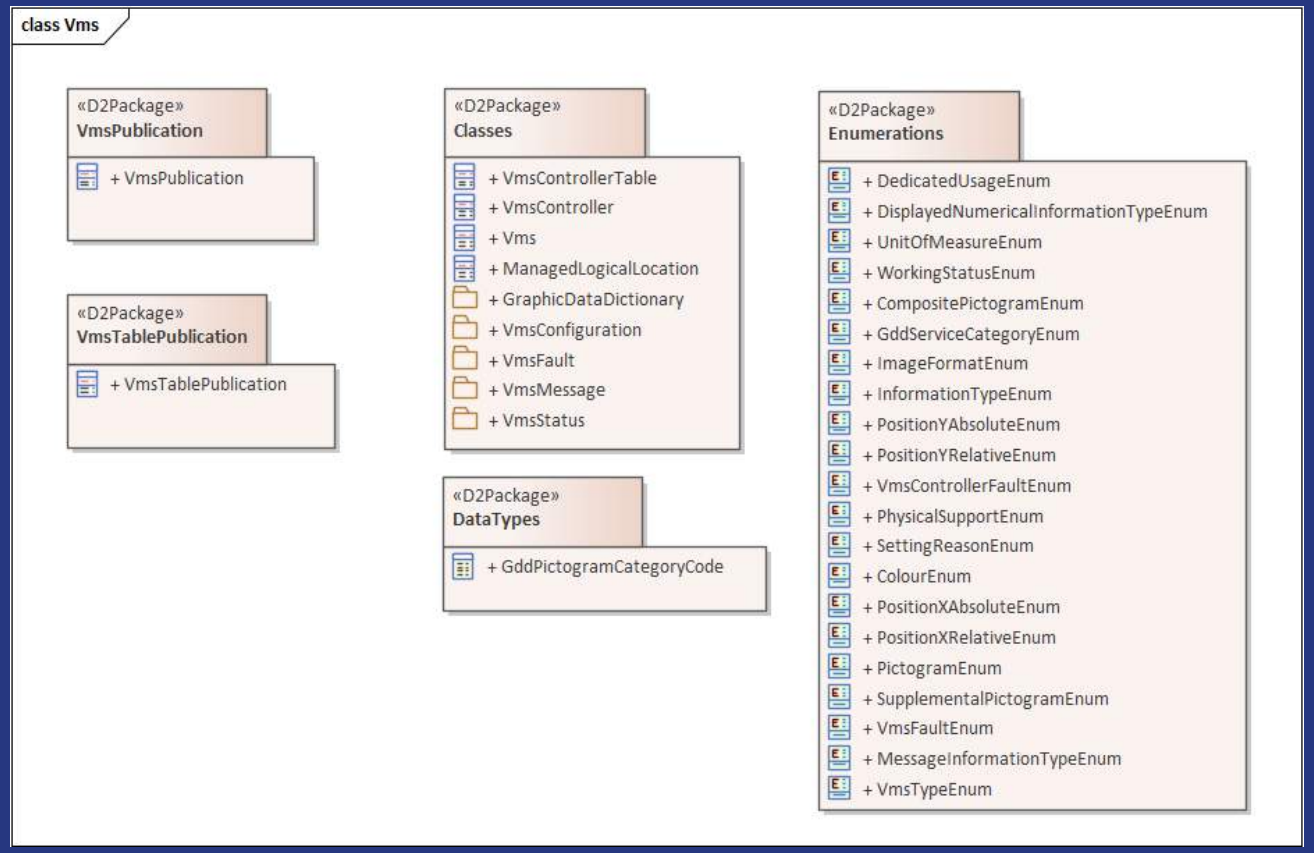
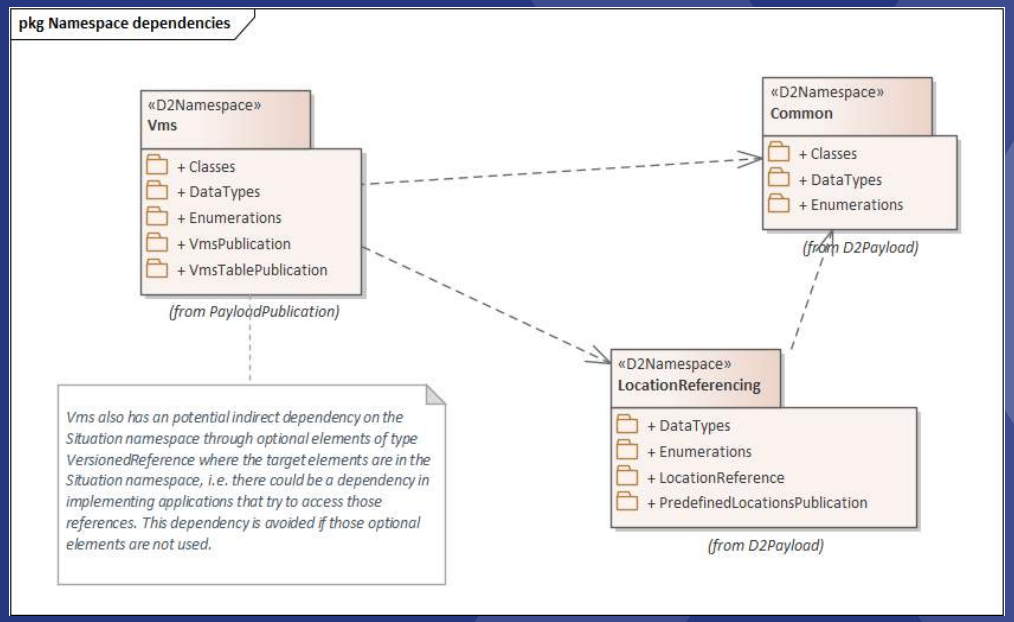
VMS Model Structure





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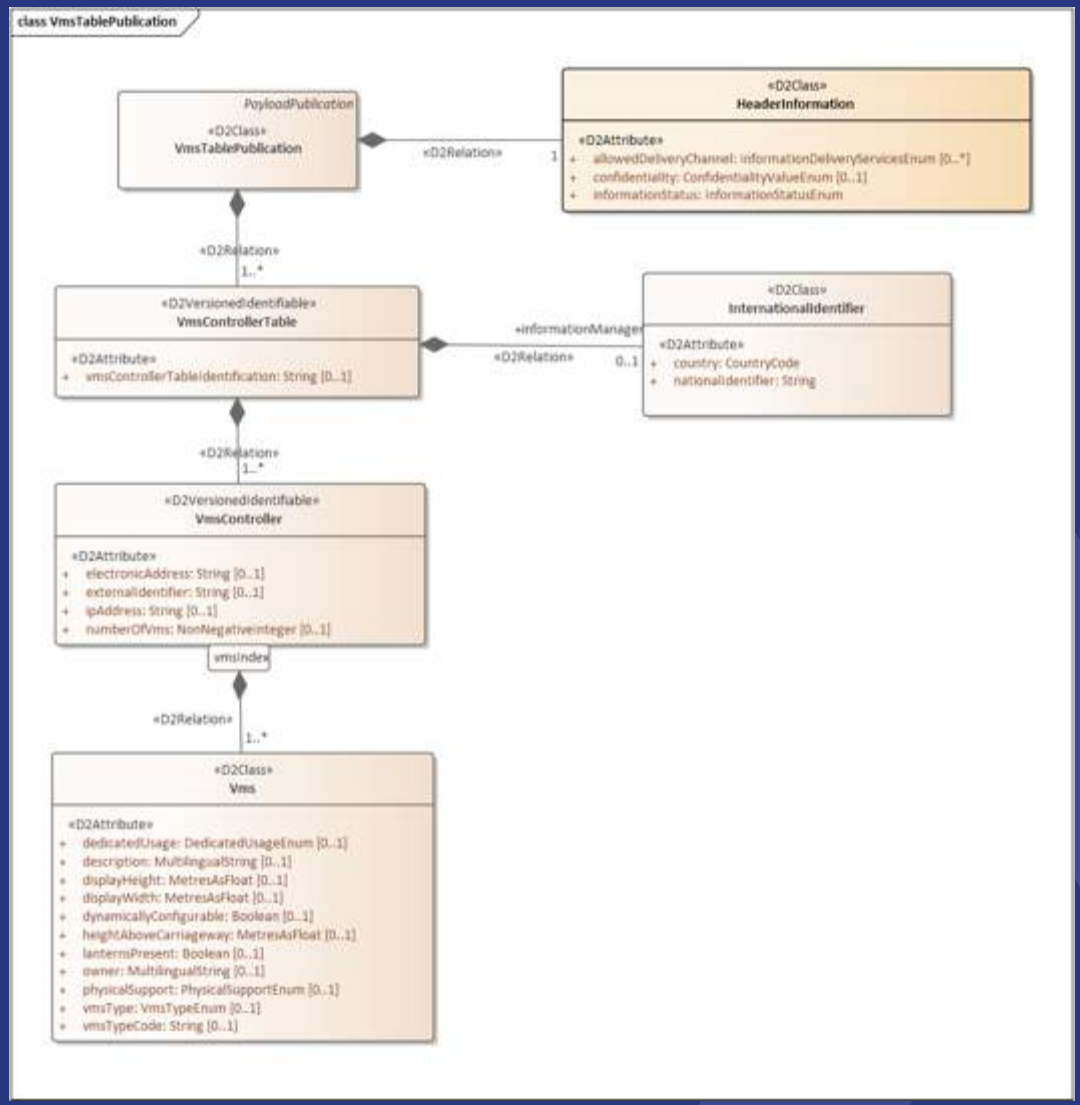
VMS table

- VMS Controller Table: versioned for update management
- Versioned Identifiable VMS Controllers
- managing one to several VMS
  - indexed referenced



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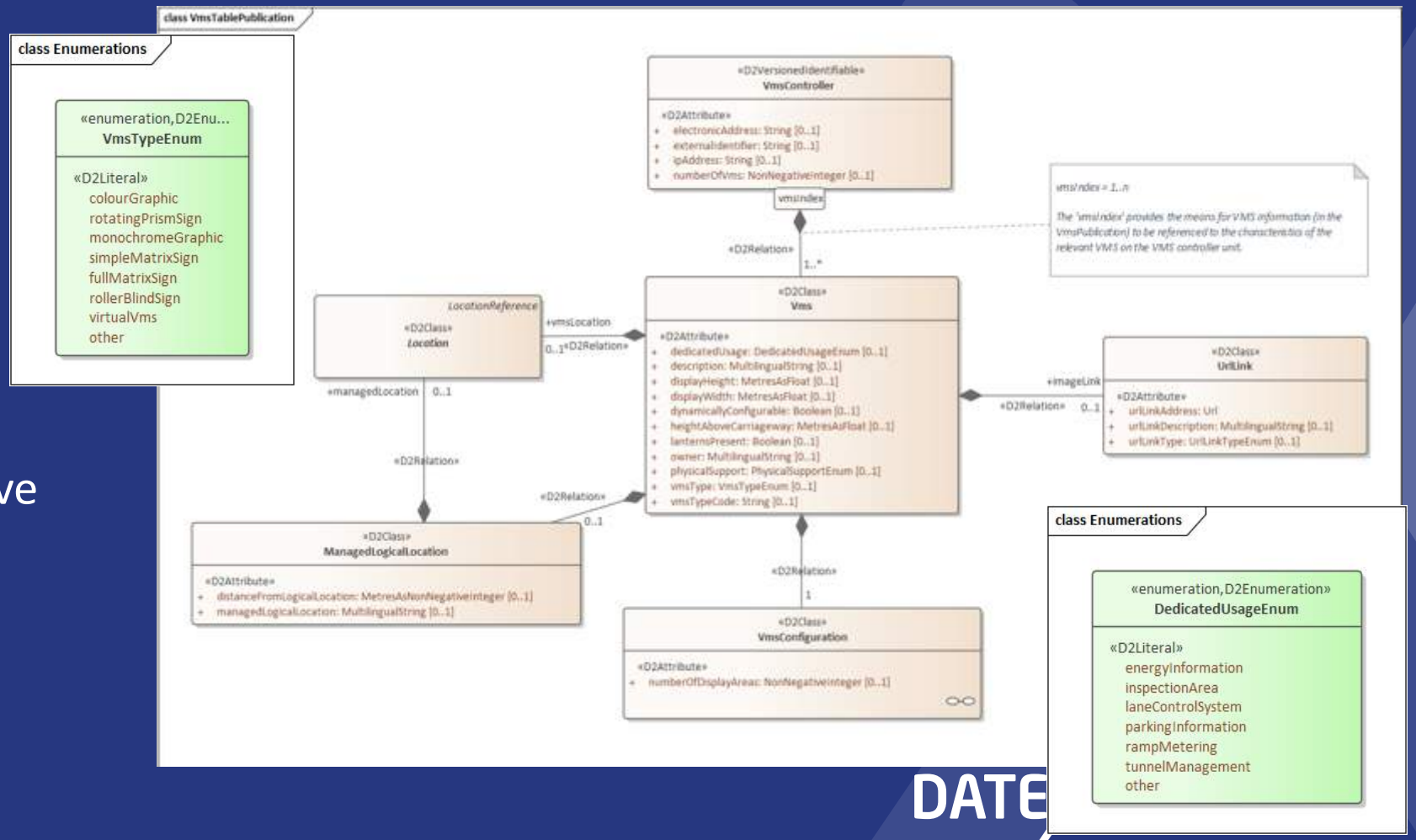
VMS and VMS characteristics

- VMS class
  - design and characteristics
  - Dedicated usage
- Location
  - VMS has a physical location and may have a managed logical location
- Static Configuration Information



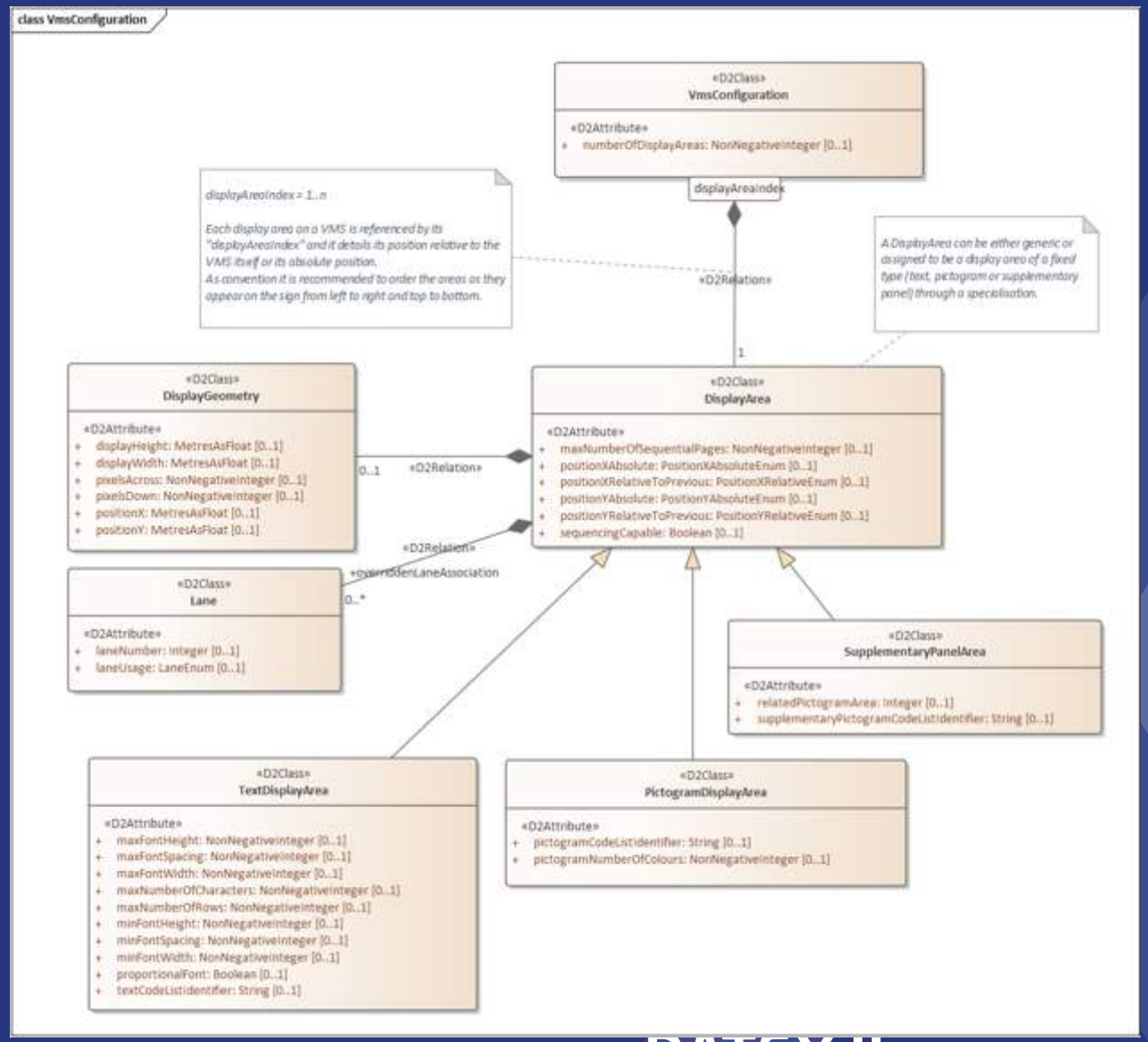
VMS Configuration

1 to many Display Area(s) of specific charateristics:

- Text Display
- Pictogram Display
- Supplementary Panel
  - Linked to a pictogram by index

A DisplayArea

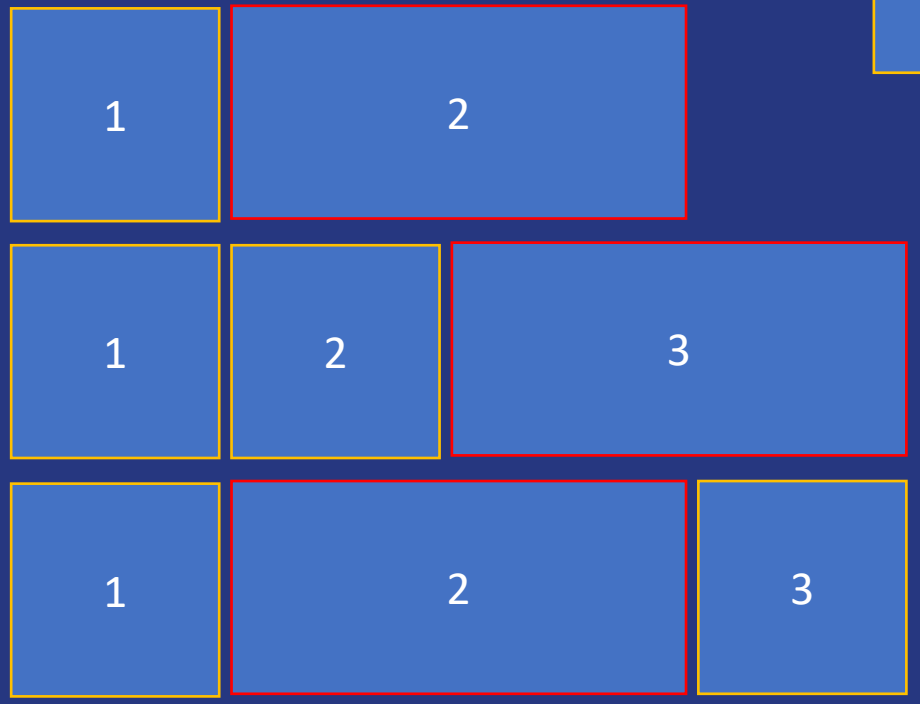
- has geometry and dimension
- position in the VMS
- may refer to a specific lane
  - When different or not specified by physical /logically managed location
- Indexed reference used in message setting

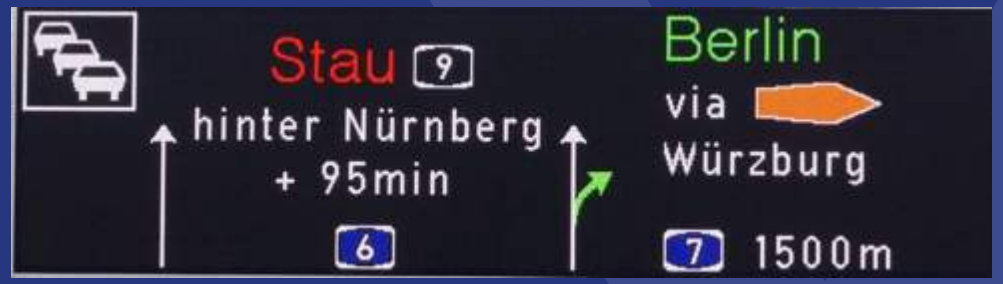


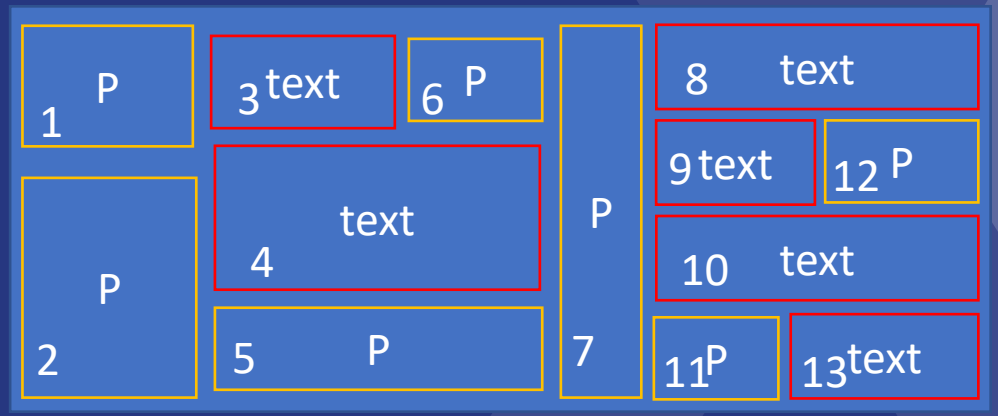
Display Area positioning

Text display

pictogram







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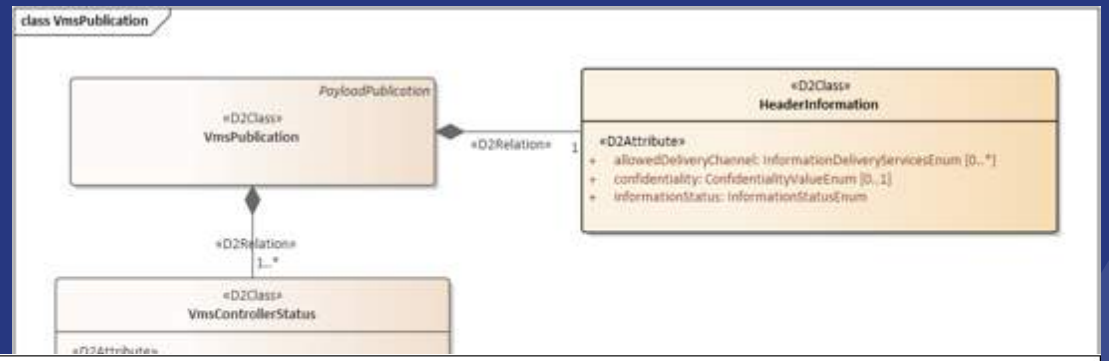
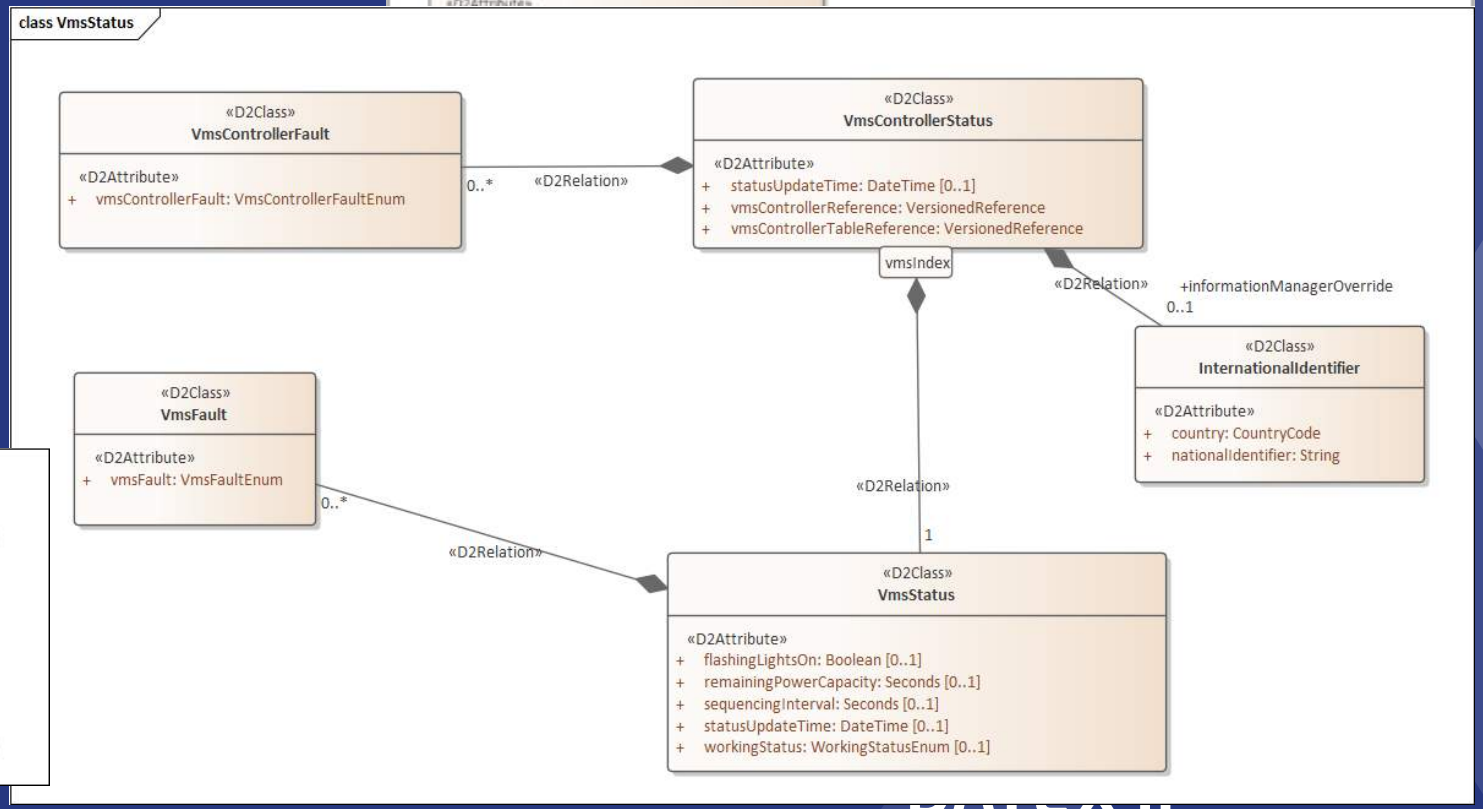
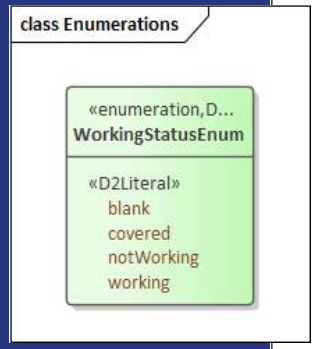
VMS Publication

- Dynamic VMS Information
  - Faults
    - VMS Controller
    - VMS
  - VMS overall Working Status

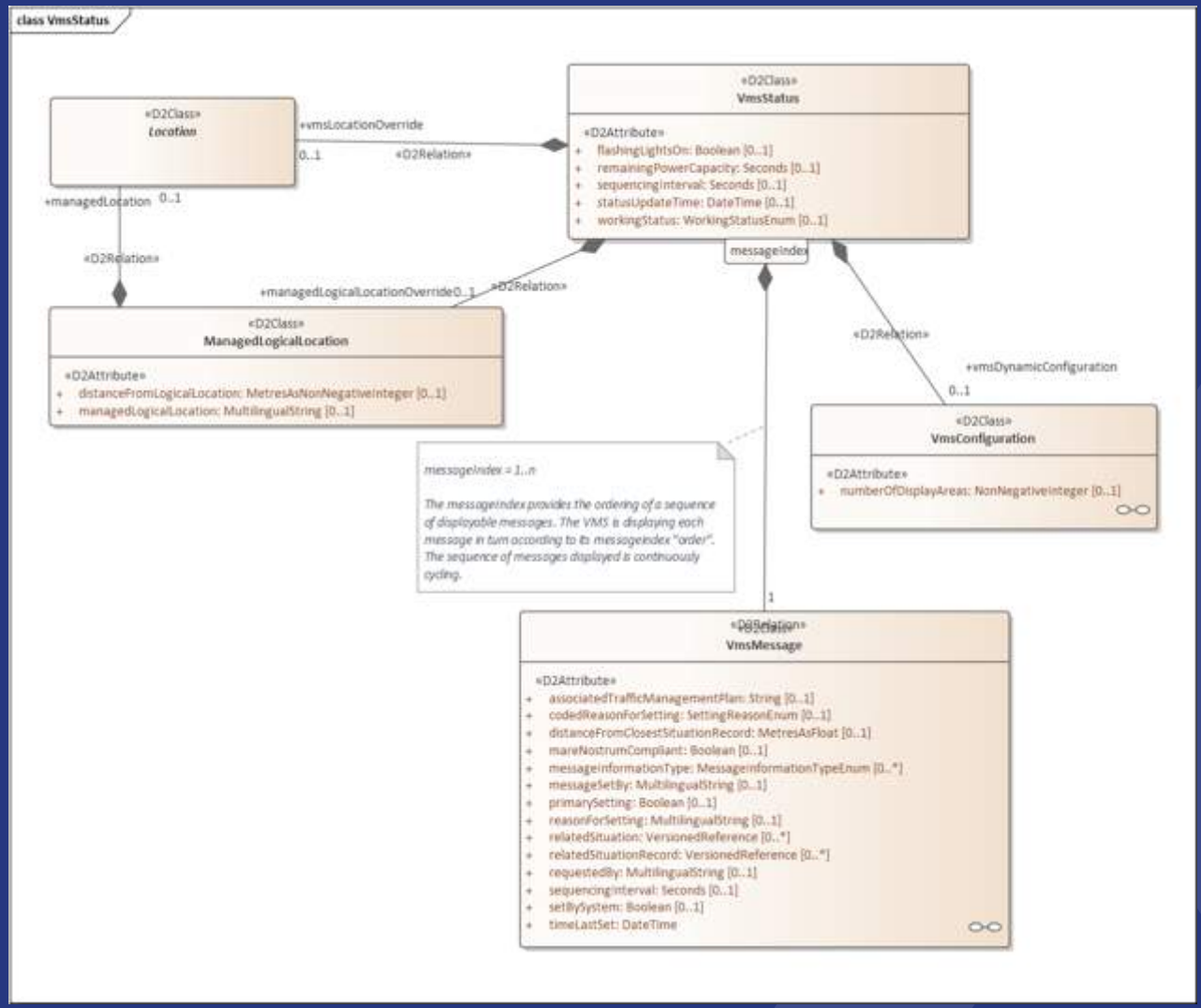






VMS dynamic settings

- VMS Status of specific VMS settings
  - Flashing lights
- Location and Managed Logical Location
  - Mobile VMS
- VMS configuration
  - Dynamic managed VMS
  - Full Matrix VMS
- Message(s) displayed
  - messageIndex
  - Sequencing interval for multiple message



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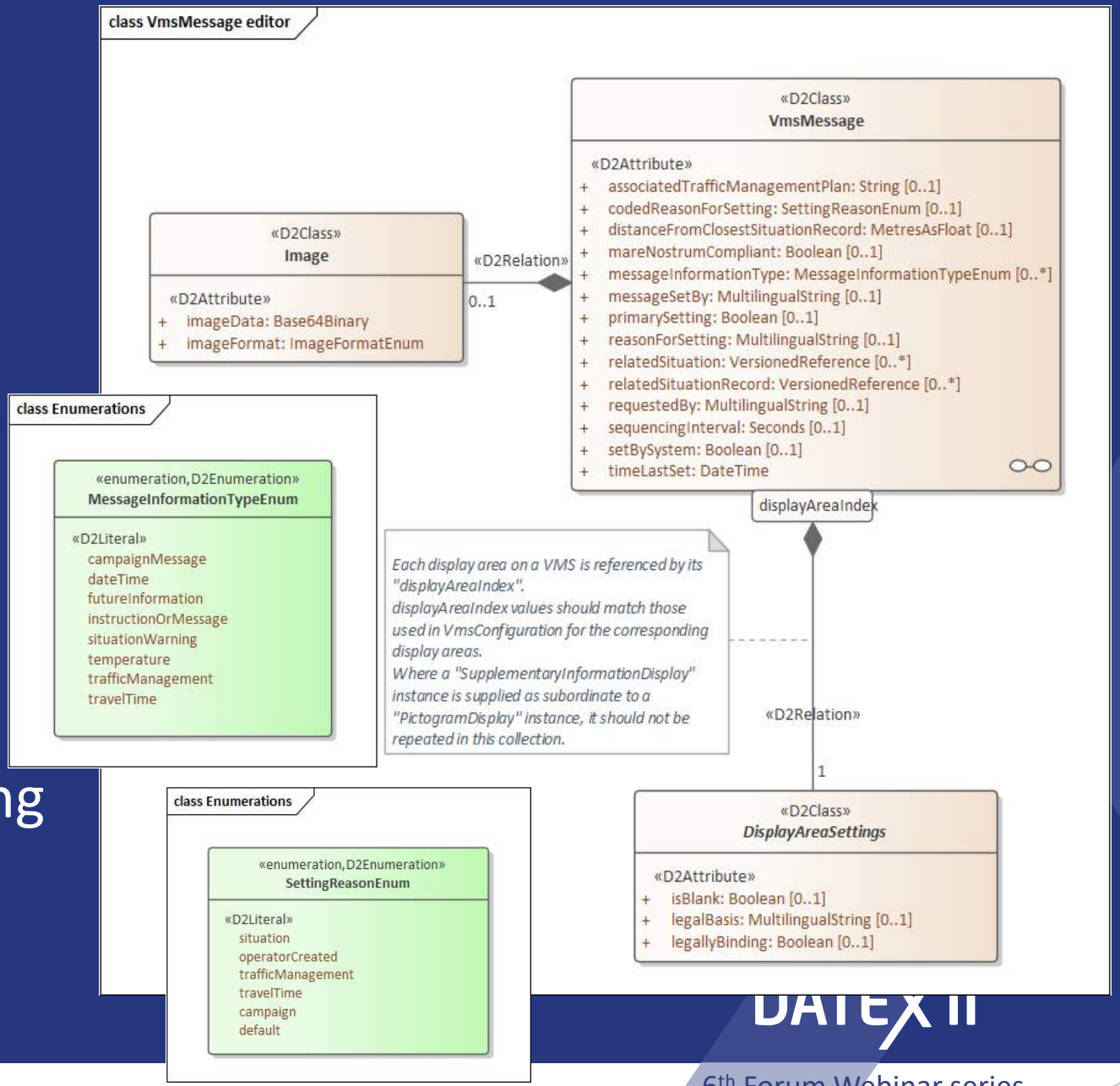
VMS Message

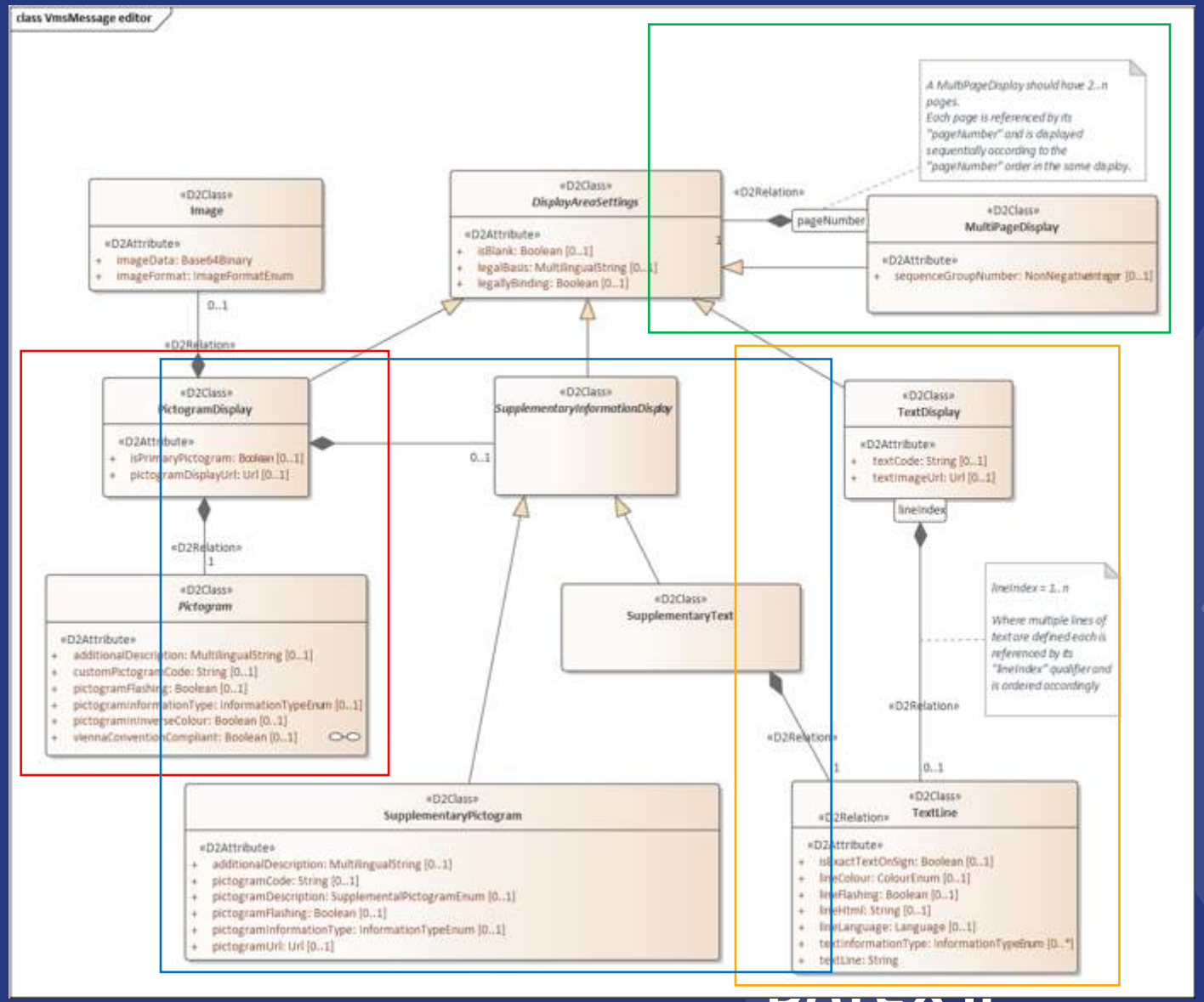
- VMS Message reason for setting and associated information
  - Situation
  - TMPlan activation
  - requestedBy
  - messageInformationType
- 1..many DisplayAreaSetting
  - Index refers to VMS displayAreaIndex



Display Area Setting

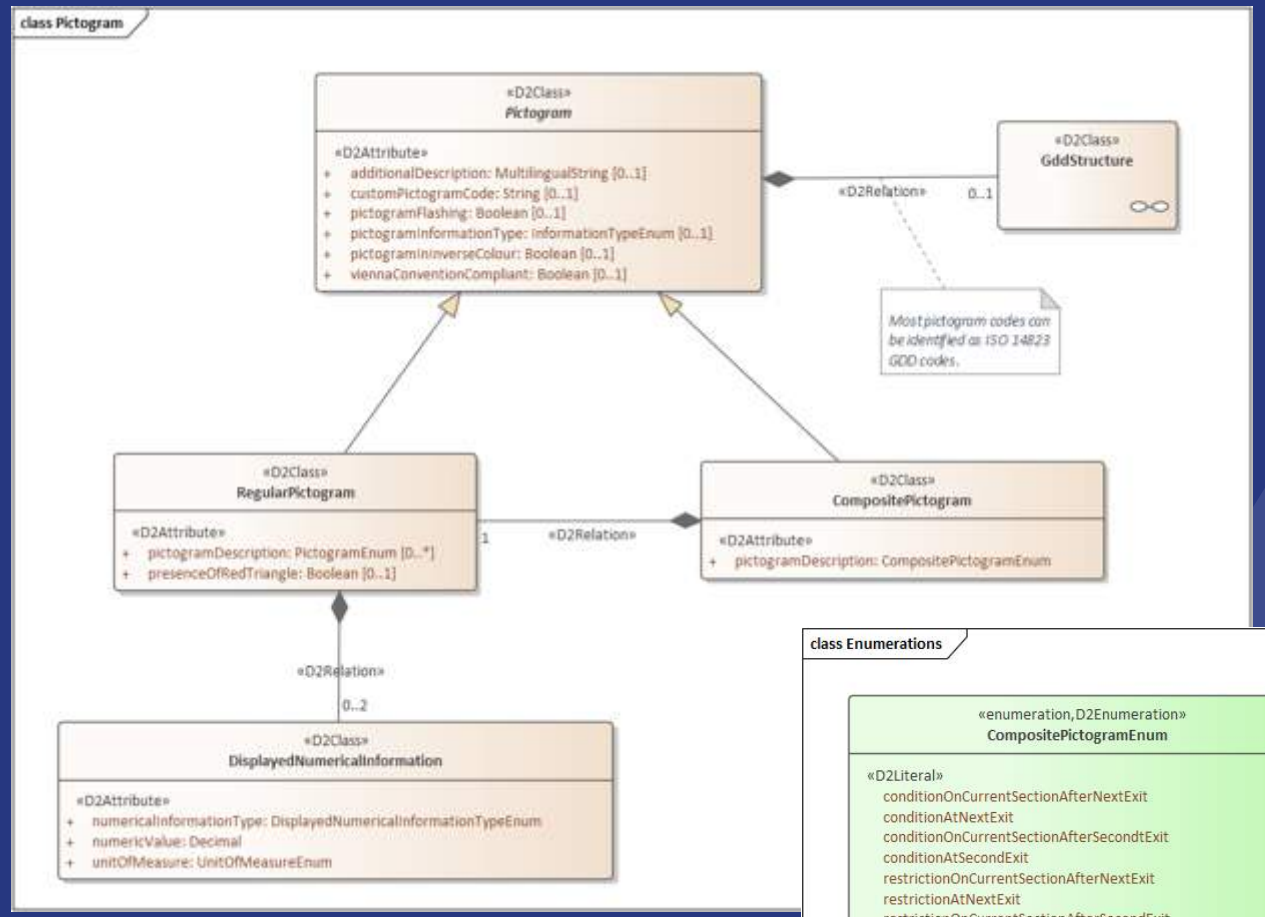
- TextDisplay
  - 1..n indexed TextLine
- PictogramDisplay
  - Pictogram
- Supplementary Information
  - S. Text Line
  - S. Pictogram
- MultiPageDisplay
  - Sequencing interval

Profiling VMS model for specific VMS design and use reduces complexity



Pictogram class

- GDD Pictogram refers ISO 14823-1
- Regular Pictogram
  - Also non GDD pictogram are possible
    - pictogramDescription
    - GDD is evolving to include most and add regional specialisation
- Composite Pictogram
  - graphical arrows to junctions
  - Event Pictogram



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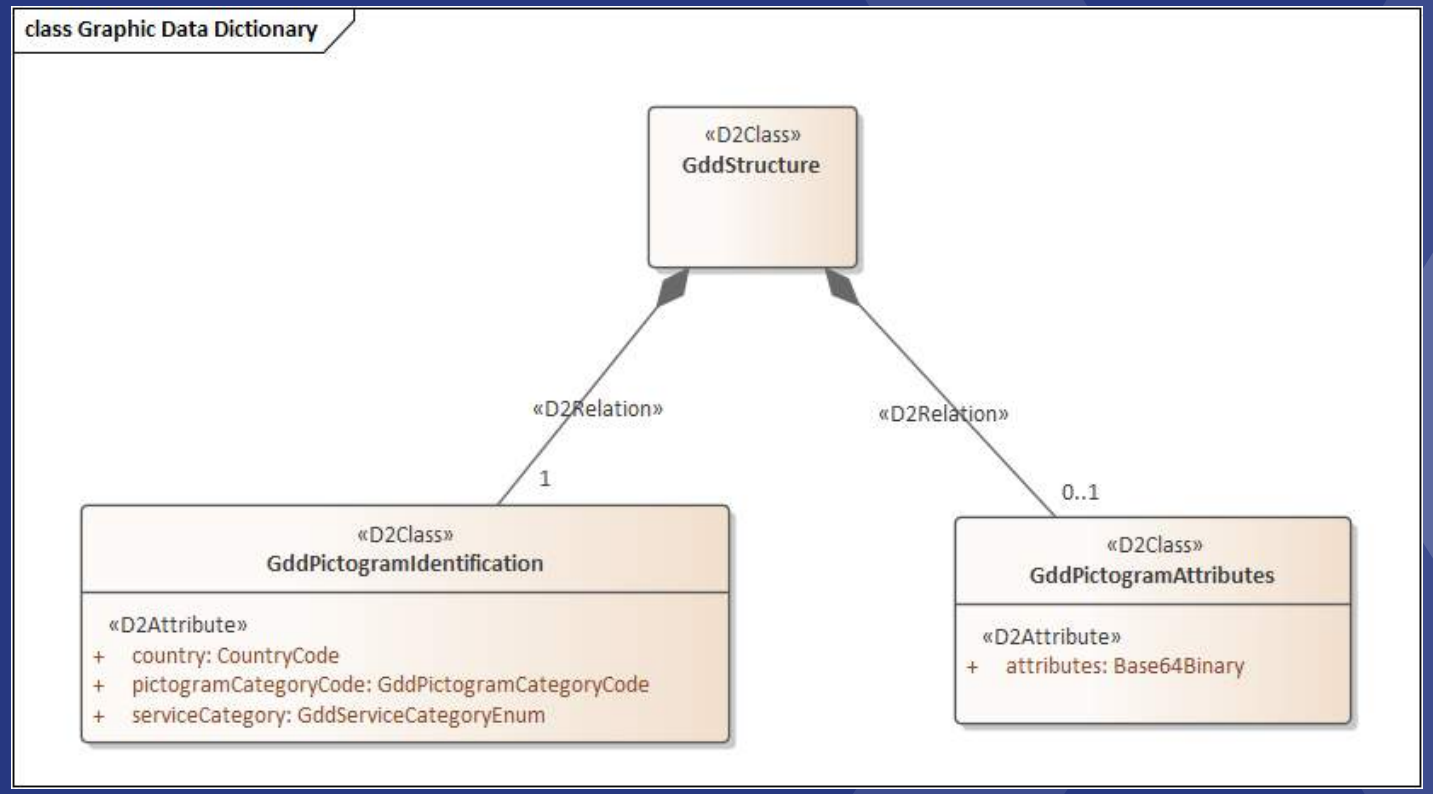
GDD Structure – ISO 14823-1

- Only high level GDD information is managed i.e. the pictogram identification
- Attribute information is kept as used in GDD binary information encoded Base64



Sample Message text + 2 pictograms

```
<?xml version="1.0" encoding="UTF-8"?>
<payload modelBaseVersion="3" xsi:type="vms:VmsPublication" xmlns:vms="http://datex2.eu/schema/3/vms" xmlns:roa="http://datex2.eu/schema/3/roadTrafficData"
xmlns="http://datex2.eu/schema/3/d2Payload" xmlns:com="http://datex2.eu/schema/3/common" xmlns:loc="http://datex2.eu/schema/3/locationReferencing"
xmlns:xsi="http://www.w3.
    <com:publicationTime
    <com:publicationCreat
        <com:country>it</
        <com:nationalIden
    </com:publicationCrea
    <vms:headerInformatio
        <com:confidential
        <com:information
    </vms:headerInformati
    <vms:vmsControllerSta
        <vms:vmsControlle
        <vms:vmsControlle
        <vms:vmsStatus vm
            <vms:vmsStatu
            <vms:working
            <vms:vmsMessa
                <vms:vms
                    <vms
                    <vms
                    <vms
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                    </vm
                    <vms
```

```
        <vms:vmsMessage messageIndex="1">
            <vms:vmsMessage>
                <vms:timeLastSet>2017-07-26T16:05:00+02:00</vms:timeLastSet>
                <vms:sequencingInterval>1</vms:sequencingInterval>
                <vms:displayAreaSettings displayAreaIndex="1">
                <vms:displayAreaSettings xsi:type="vms:PictogramDisplay">
                        <vms:isPrimaryPictogram>false</vms:isPrimaryPictogram>
                        <vms:pictogram xmlns:vms="http://datex2.eu/schema/3/vms" xsi:type="vms:RegularPictogram">
                            <vms:viennaConventionCompliant>true</vms:viennaConventionCompliant>
                            <vms:pictogramInformationType>situationInformation</vms:pictogramInformationType>
                            <vms:gddStructure>...</vms:gddStructure>
                            <vms:presenceOfRedTriangle>false</vms:presenceOfRedTriangle>
                    </vms:pictogram>
                    </vms:displayAreaSettings>
                </vms:displayAreaSettings>
                <vms:displayAreaSettings displayAreaIndex="2">
                <vms:displayAreaSettings xsi:type="vms:PictogramDisplay">
                        <vms:isPrimaryPictogram>true</vms:isPrimaryPictogram>
                        <vms:pictogram xmlns:vms="http://datex2.eu/schema/3/vms" xsi:type="vms:RegularPictogram">
                            <vms:pictogramInformationType>situationInformation</vms:pictogramInformationType>
                            <vms:pictogramDescription>dangerOfFire</vms:pictogramDescription>
                        </vms:pictogram>
                    </vms:displayAreaSettings>
                </vms:displayAreaSettings>
                <vms:displayAreaSettings displayAreaIndex="3">
                    <vms:displayAreaSettings xsi:type="vms:TextDisplay">
                    <vms:textLine lineIndex="1">
                        <vms:textLine>
                            <vms:textLine>VEHICLE ON FIRE</vms:textLine>
                        </vms:textLine>
                    </vms:textLine>
                    <vms:textLine lineIndex="2">...</vms:textLine>
                    <vms:textLine lineIndex="3">...</vms:textLine>
                    </vms:displayAreaSettings>
                </vms:displayAreaSettings>
            </vms:vmsMessage>
        </vms:vmsMessage>
    </vms:vmsStatus>
</vms:vmsStatus>
</vms:vmsControllerStatus>
</payload>
```

Thanks for listening

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25th November 2020

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