PTV GROUP
the mind of movement

COM FRAMEWORK

Short description

Small framework within Microsoft Excel for easy integration of user specific VBA program code to be executed during a Vissim simulation run.

Requirements

- Microsoft Excel (version 2010 or higher)
- PTV Vissim Modules: COM Interface

Framework Structure

The framework consists of three parts:

- VBA module `ApplicationCode`: 'hooks' provided to hold user-specific program code
- VBA module `InternalCode`: core functionality (not to be modified)
- User interface (Excel spreadsheet)

Using the framework, changes/adaptions are only necessary in `ApplicationCode` and inside the Excel spreadsheet.

Hooks for user-specific program code (ApplicationCode)

The VBA Code of `ApplicationCode` contains 4 subroutines where users may add their application-specific code:

- `Project_InitMain()`

  Include here all actions to be done
  - after the INPX file is loaded and
  - **before the first** simulation starts

- `Project_InitBeforeSimStart()`

  Include here all actions to be done
  - after the INPX file is loaded and

- **each time** before a simulation starts
- `Project_InitAfterSimStart()`

  Include here all initialization that is to be done
  - at the beginning of each simulation run
  - but requires that the simulation is already running
- `Project_Main()`

  Include here all actions to be done during each simulation time step

User Interface (Excel spreadsheet)

The spreadsheet "Vissim" provides the front end to control Vissim. Here the
- **Path** (not needed if option **use same directory as XLSM file** is active)
- **Vissim input file** and an
- **Optional layout file**

are defined.

A set of control buttons opens when pressing **Sim Controls**:

The control buttons allow to
- Start Vissim
- Load the input file and
- Control the simulation.

Only these buttons can be used to control Vissim: the buttons directly in Vissim are not functional during a simulation run started from an external COM application.

Vissim Version

Please note that the VBA code in this framework is not bound to a specific Vissim version but uses the Vissim version that was last registered as COM server. If a specific Vissim version is required, that is installed on your computer, the function call

```
Set vissim = CreateObject("VISSIM.Vissim")
```

needs to be enhanced to

```
Set vissim = CreateObject("VISSIM.Vissim.xxx")
```

where "xxx" stands for the three digit version code (e.g. 900 for Vissim 9).

(This function call is contained in the subroutine `StartVissim` in the InternalCode of the framework.)