

10.00-05 [66652]

2017-08-14

### + New Features and Changes

#### Dialogs

- + In the dialog 3D Traffic Signal selected objects are now outlined. They no longer change their color when they are selected. **(12509)**

#### Dynamic assignment

- + Matrices now support user-defined attributes. **(12451)**

#### Network Editor

- + Vissim now supports combining static vehicle routes. This is possible by using the entry 'combine routes' in the context menu of static vehicle routing decisions. When routes are combined, the routes of the selected routing decision are appended to the routes that end upstream on the same link. This is only done for routing decisions with identical vehicle classes. **(12342)**

#### Signal Control

- + Detectors of type 'Pulse' now transmit information about rear edges directly after information about the front edge. Rear edge information no longer is transmitted at the moment the rear edge leaves the detector. **(12517)**

#### Workspace

- + The same data is now transferred when you call up technical support via the start page as when you call up the Help menu. As a result, the information on the Vissim version, operating system and license number used are already prefilled in the web form. **(12002)**

### ✓ Fixed Bugs


#### ANM Import

- ✓ Very small lane widths don't break the import anymore. **(12563)**

#### COM

- ✓ Vissim no longer crashes when the method RemoveVehicle is called for a vehicle that already left the network. **(12607)**

#### COM Interface

- ✓ Event-based scripts were due to rounding errors sometimes not executed exactly at the specified time step, but in an earlier or later time step. **(12558)** 

#### Demo and Viewer

- ✓ Vehicle simulation in viewer and demo now works correctly. **(12593)**

#### Dialoge

- ✓ Der Dialog 3D-Signalgeber stürzt nun nicht mehr ab, wenn der Mast unsichtbar ist. Bei unsichtbarem Mast kam es manchmal beim Zoomen zum Absturz. **(12616)**

## Dynamic Assignment

- ✔ In certain cases Vissim could not create correct routing decisions for parking lots with real parking spaces inside of nodes. This issue was fixed. **(12526)**

## File Handling

- ✔ An \*.inpx file can be read in even if it contains invalid time interval or vehicle composition references at vehicle inputs. **(12539)**

## Network editor

- ✔ Stop signs are no longer deleted if their associated signal group is deleted. **(12532)**

## Scenario Management

- ✔ Previously, loading a scenario could fail with the message 'Conflict Area: Network object key <number> already exists in network.' This happened when conflict areas, that did not exist in any of the modifications, were generated automatically because the links in different modifications overlapped. This issue was fixed. **(12540)**

## Vehicle Simulation

- ✔ In certain cases starting the simulation failed with the error message 'Node / edge structure for evaluation nodes is invalid in this network' because there existed very short connectors with many points. This issue was fixed. **(12557)**
- ✔ In specific situations vehicles wrongly stopped during a lane change. This happened if the following vehicle was the only following vehicle, was moving from a connector to a link and executed a lane change at the same time. **(12579)** 🚩
- ✔ Public transport vehicles arriving at PT stops within the same time step don't cause a crash anymore. **(12578)**

## Viswalk

- ✔ An issue was fixed in the calculation of pedestrian movements. Calculation speed was improved. **(12601)** 🚩
- ✔ In certain cases walking speeds for queues with queue approaching method 'Static potential' could be very high. This issue was fixed. **(12572)** 🚩
- ✔ The behavior of pedestrians leaving an escalator was improved. **(12531)** 🚩
- ✔ The simulation was improved on conflict areas, where pedestrians have priority over vehicles. Previously, when the flag 'AvoidBlockMajor' was activated, pedestrians would walk through vehicles; when it was deactivated, pedestrians left too much space. Now pedestrians only avoid accessing the blocked lane. **(12496)** 🚩

## 🚩 Breaking Changes

### COM Interface

- 🚩 When event-based scripts are used, simulation results may differ, especially when event-based scripts are executed at a specific time step. **(12558)** ✔

### Vehicle simulation

- 🚩 Results may change if there are lane changes under very specific conditions. **(12579)** ✔

### Viswalk

- 🚩 Calculation results may be different. **(12601)** ✔
- 🚩 Calculation results may change in networks with escalators. **(12531)** ✔
- 🚩 Results may differ if there are conflict areas where pedestrians have priority over vehicles. **(12496)** ✔
- 🚩 Simulation results may be different if there are queues with approaching method 'Static potential'. **(12572)** ✔

10.00-04 [66652]

2017-08-14

## + New Features and Changes

### Data Model

- + Relation from a parking lot object to all vehicles currently parking in it. **(12198)**

## Installation

- ⊕ For setup or update, the installation of the CodeMeter runtime can be deselected now. This can be necessary if a CodeMeter runtime is already installed and the new installation would damage this. **(12503)**

## Vehicle Simulation

- ⊕ A vehicle can now be affected by a conflict area even if the vehicle will use a connector in the middle of the conflict area (so the end of the conflict area is not on their route/path). **(12303)** 🚫

## Viswalk

- ⊕ The calculation of the experienced speed variance has been accelerated. **(12435)**
- ⊕ The pedestrian movement in queues with hard corners (e.g. the zigzag winding queues at airports) has been improved. **(12165)** 🚫
- ⊕ Two new pedestrian attributes:  
IsInQueue: true if the pedestrian is already in a queue, else false (i.e. the next routing point is no queue or the pedestrian hasn't arrived at the rear end of the queue yet).  
PositionInQueue: empty if IsInQueue is false, else the position in the queue; the first pedestrian has position 1, the second pedestrian 2 and so on. **(12166)**

## ✔ Fixed Bugs

### Dynamic Assignment

- ✔ An open path list doesn't slow down the simulation anymore in quick mode. **(12418)**

### Presentation

- ✔ Video recording with a storyboard works also with DirectX rendering now. **(12497)**

### Vehicle Simulation

- ✔ A vehicle in the interaction state "Follow" using the car following behavior Wiedemann 99 doesn't brake down to a reduced desired speed (due to a desired speed decision or a COM script) within one time step anymore (which could result in extreme deceleration values even beyond the maximum deceleration). **(12504)** 🚫
- ✔ A vehicle which has left the minimum headway of a priority rule across a connector but which still is partly inside the headway is now correctly detected as an obstacle. **(11654)** 🚫
- ✔ The actual position of the rear end of a vehicle is now considered correctly by trailing and conflicting vehicles. This prevents a long vehicle which is just entering a small roundabout to wrongly block the whole roundabout. **(11219)** 🚫

### Viswalk

- ✔ Queues don't have the tendency to drift to the right anymore. **(12202)** 🚫
- ✔ Yielding vehicles cannot ignore pedestrians anymore at conflict areas with an additional stop line distance. **(12222)** 🚫

### Workspace

- ✔ Improvements for high DPI (on high resolution displays). **(11356)**

## 🚫 Breaking Changes

### Vehicle Simulation

- 🚫 A connector leaving from inside the minimum headway of a priority rule can cause simulation results to differ from previous versions. **(11654)** ✔
- 🚫 Connectors starting inside a conflict area can cause simulation results to differ from previous versions. **(12303)** ⊕
- 🚫 Correct rear end handling of leading / conflicting vehicles can cause simulation results to differ from previous versions. **(11219)**
- 🚫 The limitation of the deceleration due to a reduced desired speed can cause simulation results to differ from previous versions. **(12504)** ✔

### Viswalk

- ❗ Conflict areas with priority for pedestrians over vehicles and with an additional stop line distance can cause simulation results to differ from previous versions. (12222 ✅)
- ❗ Queues with hard corners can cause simulation results to differ from previous versions. (12165)
- ❗ Queuing areas can cause simulation results to differ from previous versions. (12202 ✅)

10.00-03 [68129]

2017-11-13

## + New Features and Changes

### ANM Import

- + More references to Vissim objects in messages (showing the numbers, allowing right-click for zoom to). (12014)

### COM Interface

- + New methods to add or delete a data collection measurement. (11930)

### DriverModel.DLL Interface

- + World coordinates of the front end and rear end of nearby vehicles are passed from Vissim to the DriverModel.DLL as well. The polyline of the current lane of the ego vehicle (along its route/path, within the visibility distance) is passed to the DLL as well. (12433)

### Network Editor

- + PT line stops are highlighted in the network editor window(s) now if they are selected in the coupled list PT lines / PT line stops and if synchronization is active. (12261)

### Viswalk

- + Experienced density is now only calculated if explicitly required for an evaluation or window. This can speed up other simulation runs a lot. (12275)

### Workspace

- + Attribute descriptions (e.g. in tooltips) are shown in the fallback language if there is no description available in the currently selected language. (12229)

## ✅ Fixed Bugs

### COM Interface

- ✅ The method SuspendUpdateGUI affects chart windows as well now. (12220)

### Evaluations

- ✅ Link segment evaluation results are now read in much faster from the evaluation database. (12271)

### Graphics

- ✅ A 3D view layout saved with Vissim 9 is now interpreted correctly in Vissim 10. (12121)
- ✅ Turn value visualization works correctly now for left-hand traffic as well. (12120)

### Meso Simulation

- ✅ PT lines ending in a micro section cannot cause an infinite loop during the initialization of the simulation anymore. (12327)
- ✅ The start section of an automatically created travel time measurement for node evaluation can now be located upstream of the start of the meso edge ending at the node entry. (12320)

### Network Editor

- ✅ Copy/paste doesn't zoom to the full network anymore. (12247)

### Presentation

- ✔ The simulation time of day is now shown correctly in the preview window during an AVI recording even if the start time is nonzero. **(12287)**

## Signal Control

- ✔ Optimization of all (fixed time) signal controllers doesn't crash anymore. **(12441)**
- ✔ The RBC GUI saves a modification of the recovery mode (in the table free running priority) correctly now. **(12446)**

## Vehicle Simulation

- ✔ Overtaking on the same lane doesn't allow a vehicle to protrude into the overtaking lane anymore except during an explicit overtaking manoeuvre in opposing traffic. **(12235)**
- ✔ Rounding imprecision cannot cause a vehicle to miss a connector anymore after multiple lane changes. **(12073)** ⚠

## ⚠ Breaking Changes

## Vehicle Simulation

- ⚠ Higher precision in the calculation of emergency stop positions can change simulation results compared with previous versions. **(12073)** ✔

## 10.00-02 [66652]

2017-08-14

## + New Features and Changes

### COM Interface

- + New method `IVissim.Log(priority, message)` which allows to write a user-defined message into the Vissim messages window from a script. The parameter `priority` can have one of four values: `MESSAGEPRIORITY_ERROR = 0x3000`, `MESSAGEPRIORITY_WARNING = 0x4000`, `MESSAGEPRIORITY_NOTE = 0x5000`, `MESSAGEPRIORITY_SYSTEM = 0x6000`. **(12199)**

### Dialogs

- + Changing the z-Offset of the start point and/or end point of a link in the link dialog now causes all spline points to be adapted proportionally to these changes. **(12085)**
- + The 3D signal dialog has been completely rebuilt, so it can be used more intuitively and it allows some new signal states. See the Vissim 10 manual for details. **(2964)**

### DriverModel.DLL Interface

- + External driver model DLLs may be used now in multithreaded simulation runs if all DLLs confirm that they support multithreading. (Unless there is only one externally controlled vehicle or all externally controlled vehicles are on the same link, the DLL needs to be programmed accordingly, of course.) **(11697)**
- + If the DLL requests it, Vissim sends the data of all nearby vehicles that the ego vehicle sees according to the current driving behavior (min./max. look ahead and look back distances, number of observed vehicles). instead of at most 2 each upstream and downstream per lane. **(12225)**
- + User-defined vehicle attribute values can be passed to the DLL and can be modified by the DLL. **(11023)**

### Dynamic Assignment

- + In the convergence evaluation, the percentage of converged paths and edges by travel time is shown additionally as weighted by volume, i.e. as ratio of the total volume of all con-verged paths/edges to the total volume of all used paths/edges. In this value, travel time outliers on low-volume paths/edges have a reduced influence. **(12131)**
- + Under scenario management, the default folder for path (\*.weg), trip chain (\*.fkt) and cost files (\*.bew) is now the scenario subfolder (S000\*). **(11919)**

### Evaluations

- + Link evaluation segments have the new attributes `StartCoord`, `StartCoordX`, `StartCoordY`, `StartCoordZ`, `EndCoord`, `EndCoordX`, `EndCoordY` and `EndCoordZ` which contain the Cartesian world coordinates of the start / end of the segment (as world point respectively as floating point value for the individual dimension). **(10512)**

## Graphics

- ⊕ The live map provider "OpenStreetMap (Cycle Map)" is not available anymore. **(12245)**

## License Handling

- ⊕ The new academic licenses have usage tracking activated automatically and require an Internet connection at runtime. **(11788)**
- ⊕ Thesis licenses include all signal controller types except RBC and Econolite ASC/3 now. (For many types, the actually controller DLL needs to be procured from the respective manufacturer.) **(12197)**

## Lists

- ⊕ An alias for an attribute can be defined/edited/removed directly from the context menu (right click on the column header). **(11910)**
- ⊕ Coupled lists have only one synchronisation button in the toolbar which refers to the parent or child list automatically, depending on which object has been selected last. In particular, a selection of a child object (in the child list or in the network editor) doesn't change the pseudo-selection in the parent list. **(7775)**
- ⊕ Hitting the "Del" key (delete) doesn't delete all objects (rows) with selected cells and unselected cells anymore but only the content of the selected cells (as far as those can be empty). Objects are still deleted if all cells in their row are selected. **(11785)**
- ⊕ The node attributes ShowTurnValVisual and TurnValVisualSize and the parking lot attribute Zone are now part of the default list layout. **(12251)**

## Network Editor

- ⊕ Vissim asks for the desired interpretation (Mercator or Cartesian) of the coordinates from a CAD file when it is added as new background object. **(11886)**

## User-Defined Attributes

- ⊕ All network objects which have evaluation attributes and can have data attributes can now use the subattribute u";simulation runu"; for user-defined data attributes. The values of these attributes can be modified only during the respective simulation run and are saved in the evaluation database (\*.db). **(9140)**
- ⊕ The formula editor provides the new functions Modulo, Integer quotient, Sine, Kosine, Tangent, Arc sine, Arc cosine and Arc tangent. **(9562)**

## Workspace

- ⊕ PTV Vision start page. See "Vissim 10 - what's new.pdf" for details. **(10662)**

## ✓ Fixed Bugs

### Dynamic Assignment

- ✓ An issue has been fixed in 'Create static routing'. Vissim now produces correct results even if path attributes have been stored for individual vehicle classes. **(12059)**
- ✓ The option "Search paths for O-D pairs with zero volume" has an info button now which explains that this option has also an effect ("Keep paths for O-D pairs with zero volume") if no paths are searched. **(12068)**

### Evaluations

- ✓ Writing the vehicle record with many vehicles in parking lots is now much faster. **(12096)**

### Graphics

- ✓ Rotated backgrounds are now always shown in the network editor window even if only a part of them is inside the current view. **(12133)**

### Lists

- ✓ In some cases the height of a list window was much too small when opened for the first time. This problem has been fixed. **(11945)**

### Network Editor

- ✓ Moving a network object with active label display cannot cause a crash anymore. **(12130)**

## Scenario Management

- ✔ Opening another scenario while a chart window is open doesn't cause a crash anymore. **(12089)**
- ✔ The network graph for node evaluation is now created automatically upon opening a scenario, so node results can be visible immediately (e.g. in list or chart windows). **(11550)**

## Vehicle Simulation

- ✔ A long emergency stop distance of a connector B which results in an emergency stop position on an upstream connector A without a lane leading to connector B is not automatically moved downstream to a position 0.1 m downstream of its connector A anymore. This causes vehicles with a route using connector B to stop at the emergency stop position on connector A forever. **(11938 ⚠)**
- ✔ Conflict areas with an additional stop line distance calculate the distance to vehicles on the conflicting link in all cases correctly now. **(10787 ⚠)**
- ✔ If a vehicle decides to ignore the stop line of a priority rule in order to resolve a deadlock, it can now consider stop lines of other priority rules further downstream before it passes the critical stop line, too. **(12256 ⚠)**
- ✔ Multi-lane conflict areas cannot cause a deadlock anymore with a vehicle waiting for a necessary lane change. **(12250 ⚠)**
- ✔ PT vehicles enter the network now like normal vehicles: on the lane with the biggest distance to a downstream vehicle / network object which is not closed for the type of the vehicle. **(12172 ⚠)**
- ✔ Vehicles which intend to park on the adjacent lane wait now a little further upstream (in the middle of the designated parking space) until the lane change is possible. This allows for more room for a vehicle leaving that parking space. **(11956 ⚠)**

## Viswalk

- ✔ Several bugfixes for specific situations. **(11990 ⚠)**

## ⚠ Breaking Changes

### Vehicle Simulation

- ⚠ "Impossible" emergency stop positions are not moved to a downstream position automatically anymore (where they could cause problems harder to detect). **(11938 ✔)**
- ⚠ Behavior inside multi-lane conflict areas can be different from previous versions. **(12250 ✔)**
- ⚠ Behavior of vehicles before parking on an initially blocked parking space on a multi-lane link can be different from previous versions. **(11956 ✔)**
- ⚠ Conflict areas with an additional stop line distance calculate the distance to vehicles on the conflicting link in all cases correctly now. **(10787 ✔)**
- ⚠ PT vehicles enter the network now like normal vehicles: on the lane with the biggest distance to a downstream vehicle / network object which is not closed for the type of the vehicle. **(12172)**
- ⚠ Vehicle behavior after a deadlock resolution at a priority rule can be different from previous versions. **(12256)**

### Viswalk

- ⚠ Pedestrian behavior and results can differ from Vissim 10.00-01. **(11990 ✔)**

10.00-01 [66243]

2017-06-29

## + New Features and Changes

### COM Interface

- + New method `IVissim.LicenseInfo.LicenseIncludesModule(module)` which returns true if the Vissim license contains the specified module else false. **(12065)**

### Driving Simulator Interface

- + Automatic interpolation of Vissim vehicle/pedestrian world coordinates, orientations and speeds between Vissim time steps if the simulator informs Vissim about a higher frame rate than the Vissim simulation resolution in the call of `VISSIM_Connect()`. **(10329)**



- + Optionally, simulator pedestrians can be passed to Vissim now. The pedestrian type for those needs to be selected in the network settings on the new tab page "Driving simulator". (The checkbox for activation of the driving simulator interface and the selection box for the vehicle type for simulator vehicles have been moved there as well.) **(10331)**
- + The maximum number of objects of each type to be exchanged between the simulator and Vissim can be set by the simulator in the call of VISSIM\_Connect(). **(11916)**
- + The simulator can pass a maximum visibility radius to Vissim in the call of VISSIM\_Connect(). Vissim vehicles and pedestrians will be passed to the simulator only if they are inside of this radius from the center of the front end of a simulator vehicle or pedestrian. **(11579)**

## Dynamic Assignment

- + "Archived" path (\*.weg) and cost (\*.bew) files now have always the simulation run number in their filename. (Previously, the next number after the highest existing number in the data folder was used.) **(11920)**

## Evaluations

- + Access versions 2010/2013/2015 are supported now as evaluation database (as well as old versions since Access 2003). **(10408)**

## License Handling

- + If the used license fails, the search for alternative fall-back licenses does not start immediately but at a later, random time. This prevents overload in the license management if Vissim instances start a search on several computers. Until the start of the search, Vissim tries to connect to the license used so far. **(11532)**

## Lists

- + The menu items for lists don't open a new list now if that type of list is already open but only give the focus to an open list of that type. There are additional context menu items "Open new list" in the network object sidebar and in the list window itself - in coupled lists even a separate one for the child list if that type has lists for its own. **(10295)**

## Viswalk

- + Coupled list areas/ramps/elevators plus pedestrians (on the area/ramp respectively in the elevator). **(9762)**

## Fixed Bugs

### ANM Import

- ✓ If an \*.anmroutes file was imported in a network without a \*.panm file, the message "ANM vehicle time interval: VEHTYPEID: Referenced net object not found" could appear and the routes could not be imported. This issue has been fixed. **(12001)**
- ✓ Link polygons close to one-legged intersections are no longer adjusted. Previously, points close to the intersection were adjusted in certain cases. **(12061)**
- ✓ The message 'Could not copy TL supply files to input folder. Please do it manually!' sometimes appeared even when files were copied successfully. This issue was fixed. **(12036)**

### Dialogs

- ✓ In the dialog "Driving Behavior" on the tab "Lane Change" all the labels for "- 1ft/su<sup>2</sup>; per distance" now show the correct unit of distance. **(11969)**


### Driving Simulator Interface

- ✓ If the used Vissim instance has been started with the command line parameter -automation before the VISSIM\_Connect() call, it is now not closed anymore automatically after VISSIM\_Disconnect(), so it can be used for multiple subsequent connections. **(12071)**
- ✓ The vehicle type parameter in the network settings is now taken into account correctly. **(12051)**

### Dynamic Assignment

- ✓ Imprecise warnings about parking spaces that could not be assigned were improved in cases with more than one parking lot belonging to the same parking lot group. **(12055)**

### Meso Simulation

- ✓ An issue was fixed with respect to volumes in the lane-based link evaluation. Now Vissim correctly uses the sum of the lane volumes. Now lane-based and link segment-based evaluations are consistent. **(11764)** 



## Network Editor

- ✔ When 'Generate Opposite Direction' is used, the new link now correctly uses the negative of the gradient of the original link. **(12025)**

## Signal Control

- ✔ In Vissim 10.00-00, VAP required a BALANCE license and Vissig (extended fixed time) required an EPICS license. This bug has been fixed. **(12083)**

## Synchro Import

- ✔ An issue with long, overlapping connectors was resolved. **(12078)**

## Vehicle Simulation

- ✔ An issue was fixed concerning emergency stop positions. This affects necessary lane changes over more than one lane. In these cases vehicles will now decelerate earlier. **(11962 🚩)**
- ✔ An issue was fixed where in very rare situations conflict areas were working incorrectly. **(12004 🚩)**
- ✔ In rare cases, a vehicle stopping at a conflict area could never start again even if the conflict area became completely free later. This problem has been fixed. **(12045 🚩)**
- ✔ The values Parking duration and Parking rate in the list Parking Routing Decisions / Parking Rates by time interval can now be changed during the simulation as well. **(12049)**
- ✔ Vehicle inputs use the actual driving behavior used by the type of the new vehicle on the input link for determining the required safety distance. (Previously, an average value of Wiedemann 74 was used for all inputs.) **(11037 🚩)**

## Viswalk

- ✔ Area-based evaluations - for example density - for grid cells are now consistent in the locations where areas and ramps (or stairs) overlap. Before this improvement it was possible that different sizes were used for the same grid cell resulting in different densities on area and ramp for the same grid cell. **(11649 🚩)**
- ✔ If the attribute "ElevationOfRefHeight" of an IfcBuilding element was missing in an IFC model, the value was assumed to be 0. In certain cases, this caused the intersection heights for the building storeys to be out of bound, so certain geometries of the model were not being imported.  
This behaviour has been improved: If the attribute "RefElevation" of the corresponding IfcSite element is defined, its value will also be used for IfcBuilding."ElevationOfRefHeight". Otherwise, the intersection height is computed from the storeys' child geometries. **(11866)**
- ✔ The calculation of the effect of obstacles doesn't depend on the grid size anymore. **(11818 🚩)**

## Workspace

- ✔ An issue has been fixed where the Quick View could not be used correctly after a new network was read and in the previous network an object had been selected. **(11661)**

## 🚩 Breaking Changes

### Meso Simulation

- 🚩 Link evaluations may change. **(11764 ✔)**

### Vehicle Simulation

- 🚩 Simulation results may be different in networks with conflict areas. **(12004 ✔)**
- 🚩 Simulation results will change if vehicles perform necessary lane changes close to emergency stop positions over more than one lane. **(11962 ✔)**
- 🚩 The reaction of other vehicles on extremely slow vehicles approaching a conflict area has been changed slightly in rare cases. **(12045 ✔)**
- 🚩 Vehicle inputs use the actual driving behavior used by the type of the new vehicle on the input link for determining the required safety distance. (Previously, an average value of Wiedemann 74 was used for all inputs.) **(11037 ✔)**

### Viswalk

- 🚩 Area-based evaluations may differ if there are ramps. **(11649 ✔)**
- 🚩 Pedestrian behavior caused by obstacles has changed slightly. **(11818 ✔)**

## + New Features and Changes

### Data Model

- + Aliases for attribute names. See "Vissim 10 - what's new.pdf" for details. **(11218)**
- + User-defined attributes are available for distributions. **(10578)**

### Dialogs

- + Information icons ("i") show an additional explanation text while the mouse pointer hovers over them. **(10779)**
- + New dialog for 3D vehicle model segment selection. This allows to use Sketchup (\*.skp), 3ds Max (\*.3ds) and AutoCAD (\*.dwf) files directly as vehicle models in Vissim (without V3DM). The positions of axles and joints can be set in this dialog now as well. **(9624)**

### Dynamic Assignment

- + Flow bundle calculation and visualization. See "Vissim 10 - what's new.pdf" for details. **(10247)**
- + Matrix correction. See "Vissim 10 - what's new.pdf" for details. **(10676)**
- + User-defined attributes are available for paths, edges and meso objects. **(10905)**

### File Handling

- + The export to Visum (\*.net) uses now a more recent file format which includes the projection. **(11681)**
- + Warning because of low disk space at the start of a simulation run with a huge evaluation, \*.ani or \*.avi recording. **(11407)**

### Graphics

- + Improved caching of tiles for live maps. **(11415)**
- + Simple shadow in 3D mode, showing the outline of the 3D object on the ground. Can be activated and configured (shadow color) in the 3D graphics parameters of the network editor window. **(11089)**
- + The 64-bit edition can now use \*.skp files in the format SketchUp 2017. (The 32-bit edition can still only use SketchUp 2014 because there are no 32-bit libraries for SketchUp 2017.) **(11855)**
- + Turn value visualization. See "Vissim 10 - what's new.pdf" for details. **(9155)**

### Installation

- + Vissim 10 officially doesn't support Windows Vista anymore. **(11777)**
- + Vissim now uses .NET 4.7 and the runtime of Visual C++ 2017. The Codemeter runtime has been updated to version 6.50a. **(11975)**

### Meso Simulation

- + The node evaluation shows results within the meso section as well. See "Vissim 10 - what's new.pdf" for details. **(10966)**

### Network Editor

- + Legend for color schemes and color by function. See "Vissim 10 - what's new.pdf" for details. **(7988)**
- + The height (z-Coordinate) value of the spline points of newly created links and connectors are calculated with a 3-dimensional spline now instead of linear. This affects also the context menu commands "Recalculate Spline" and "Recalculate Spline (Height Only)". **(183)**

### Scenario Management

- + Duplicates of scenarios and modifications get "... - Copy" as name. **(11333)**
- + Improved handling of added and deleted lanes in model transfer files. This should resolve typical problems after changes to the base network. **(10814)**
- + Run control for multiple scenarios. See "Vissim 10 - what's new.pdf" for details. **(11488)**

## Vehicle Simulation

- + Parking lots don't need to be 0,5 m longer than the vehicle anymore if the vehicle requires all parking spaces of the parking lot anyway. Typical case: single parking space for perpendicular parking. **(11873)**
- + Reverse parking out of parking lots. See "Vissim 10 - what's new.pdf" for details. **(11672)**
- + Static vehicle routing decisions, partial vehicle routing decisions, managed lanes routing decisions and partial PT routing decisions all allow dynamic user-defined routing: If a bool user-defined attribute "UseVehRouteNo" is defined for the routing decision and if its value is true and if a user-defined integer attribute "NextRouteNo" is defined for vehicles, the value of "NextRouteNo" is checked when the vehicle passes the routing decision. If the value is empty or negative or zero, the routing decision works normally. If the value is the number of an existing route of that decision, that route is assigned to the vehicle. If the value is a positive value but no route exists with that number, the routing decision has no effect.  
All these user-defined attributes are defined in defaults.inpx, so they can be immediately used in new networks. **(11825)**

## Viswalk

- + Additional result attributes at areas and ramps. See "Vissim 10 - what's new.pdf" for details. **(8972)**
- + Doors of 2D/3D model segments have the new attribute "y-offset". This defines the lateral distance of the door from the center of the vehicle (default value: half of the width of the vehicle). If this is set to a smaller value, it can prevent alighting passengers to be created outside of the actual fuselage of an airplane (where the vehicle width is much bigger due to the wings). **(11638)**
- + Performance improvements in initialization and handling of signal heads, conflict areas and priority rules. **(11363)**
- + Reduced movement of pedestrians waiting at a signal or conflict area (by setting tau to 0.8 and noise to 0.0 temporarily). **(11538)**
- + Smarter navigation to the end of a queue. See "Vissim 10 - what's new.pdf" for details. **(6619)**
- + The small drag points between intermediate points (on areas) of pedestrian routes are now highlighted when the mouse pointer hovers over them. **(8490)**

## Workspace

- + The introduction document to the COM interface is now accessible directly from the help menu. The documents folder (Doc\ ) can be opened from the help menu as well. **(11524)**