PTV Vissim & Viswalk 10
Release Notes

Last modified: 2019-07-09

10.00-16   [79178]   2019-07-04

⊕ New Features and Changes

External Programs

⊕ EnViVer version 5.8 is now available and can be downloaded from https://cgi.ptvgroup.com/php/vision-setups/ by users with a valid EnViVer license. This new version can handle much larger vehicle record (*.fzp) files. **(13882)**

✓ Fixed Bugs

Lists

✓ An open list with a specific attribut cannot cause a crash upon unloading a network anymore (e.g. when switching to a different scenario). **(13572)**

Vehicle Simulation

✓ An error was fixed in the following situation: A vehicle using car following model Wiedemann 99 is driving towards a reduced speed area and changes its iteraction state from some other state to 'free' within 4 seconds prior to reaching the reduced speed area (based on the current speed). In this case the acceleration no longer is wrongly bounded to the value CC7 (default: 0.25m/su'²';). **(14052 ❗)**

❗ Breaking Changes

Vehicle Simulation

❗ Results may be different in networks with reduced speed areas, when the car following model Wiedemann 99 is used. **(14052 ✓)**

10.00-15   [77368]   2019-03-27

⊕ New Features and Changes

Installation

⊕ The Windows context menu item "Open with PTV Vissim" includes the service pack number now. **(13748)**

Scenario Management

⊕ A scenario (or the base network) can be exported as an independent network file (*.inpx) now directly from the context menu of the Project Explorer sidebar. The scenario (base network) is automatically loaded before the export. **(13735)**

Vehicle Simulation

⊕ New value "ignores interaction vehicle" for the vehicle attribute "Driving state" which is used if a vehicle reversing out of a parking space needs to ignore another vehicle in order to prevent a deadlock. If graphic parameters for vehicles are set to color by driving state, this has the same color as "ignores priority rule". **(13403)**

✓ Fixed Bugs

Evaluations

- ✅ The start section of a travel time measurement created automatically for a delay measurement for node evaluation can now be located upstream from a parking lot without assigned zone. [The start section still must be located downstream of the end of the closest parking lot with assigned zone.] **(13804 ❗)**

File Handling

- ✅ A *.db file in the root folder of the hard disk drive that the Vissim installation is located on doesn't cause an unfounded error message at program start anymore. **(13699)**

Lists

- ✅ Multi-edit of numeric list cells: When multi-editing list cells that display numeric attributes, the action was completely rejected if the change was forbidden for at least one object due to violation of the permitted value ranges. This error has been fixed. **(13780)**

Signal Control

- ✅ In the SC/Detecor record configuration, columns for indicators without index are saved correctly now, so these columns don't show always * (no value) anymore (because a nonzero index is used which cannot be changed in the dialog). This problem is also fixed when reading an *.inpx file with a damaged configuration. **(13726)**

Vehicle Simulation

- ✅ Conflict areas: A vehicle with right of way doesn't brake needlessly anymore for a merging or banching conflict far downstream only because currently a vehicle which should yield is partially inside the conflict area. Now, the vehicle with right of way brakes only if this is actually necessary to avoid a collision. **(13812 ❗)**
- ✅ In rare cases, a PT vehicle could fail to stop at all PT stops after the first one. This problem has been fixed. **(13815 ❗)**
- ✅ The parking lot attribute "Detect blockage" works correctly now if set to false. (It had no effect in Vissim 10 and 11 until now). **(13773)**

VisVAP

- ✅ Regional special characters can be used now in *.vv files. **(13816)**

❗ Breaking Changes

Evaluations

- ❗ Node evaluation delay results can be different from previous versions if there are parking lots without assigned zone in the network. **(13804 ✅)**

Vehicle Simulation

- ❗ Networks with branching and/or merging conflict areas can have different results compared with previous versions. **(13812 ✅)**
- ❗ Simulation results in networks with PT stops can differ from previous versions. **(13815 ✅)**

10.00-14 [76404]

⊕ New Features and Changes

Graphics

- ⊕ 3D model files in the format SketchUp 2018 can be used now. **(13550)**

Scenario Management

- ⊕ All modifications which will be loaded for a scenario are listed now in the Project Explorer sidebar, so not only the explicitly included modifications but also all modifications that those depend on (directly or indirectly, shwon with grey +/x symbols). **(11717)**

✅ Fixed Bugs

ANM Import

- ✅ Import of an *.anmroutes file only (into an existing Vissim network) works now for static routing also without dynamic assignment in the Vissim license. **(13137)**

Meso Simulation

- ✅ A bug has been fixed which caused a crash during the initialization of a hybrid simulation in a network where a parking lot inside a micro section is not located on the first link of the start edge. **(13569)**
- ✅ In the network performance evaluation and the link segment evaluation and the meso edge evaluation, the attribute "Vehicles (active)" is now also correct for individual vehicle classes even if the evaluation period does not start at simulation time zero. "Distance total" and "Speed average" are now also correct for individual vehicle classes. **(13701 ❗)**
- ✅ Values in the node evaluation are correct now also in meso nodes that are only a short distance downstream of another meso node. In earlier versions it was possible, that vehicles were counted on the wrong node. **(13671 ❗)**
- ✅ Values in the node evaluation could be incorrect, if a dynamic routing decision was located between the beginning of the evaluation and the node. This issue was fixed. **(13683 ❗)**
- ✅ Volumes in the node evaluation are correct now also in nodes with parallel turning movements and in roundabouts (where several of the automatically created travel time measurements share the same meso edge). **(13624)**

Scenario Management

- ✅ A modified scenario is not saved automatically anymore if it is unloaded from a COM script. **(13576)**

Viswalk

- ✅ 3D transformation attributes (e.g. yaw angle) work correctly now for 3D pedestrian models as well. **(13646)**

❗ Breaking Changes

Meso Simulation

- ❗ Evaluation results can differ from previous versions. **(13701 ✅)**
- ❗ Node evaluations may differ, when there are short distances between evaluation nodes. **(13671 ✅)**
- ❗ Node evaluations will differ for nodes with close dynamic routing decisions. **(13683 ✅)**

10.00-13 [75351]   2018-12-05

⊕ New Features and Changes

Installation

- ⊕ Documentation for "other" languages (e.g. Russian and Polish which both have a previous PDF manual) is now available for selection during the setup. **(13504)**

✅ Fixed Bugs

COM Interface

- ✅ The working folder doesn't change anymore from the directory of the current *.inpx file to the directory of an event-based script file with scope "Single call". **(13421)**

Scenario Management

- ✅ Exported network files are now explicitly excluded from scenario management, so they can be opened from directories without project database. **(13426)**
- ✅ Placing a network under scenario management also works now if the network has been opened from a network path starting with double backslash (i.e. not using a network drive mapping). **(13365)**

Viswalk

- ✅ A high number of conflict areas for pedestrians cannot cause a reproducibilty problem due to rounding issues anymore. **(13473 ❗)**

- ✅ Opening a network file with ramps with certain parameter values isn't canceled anymore due to alleged inconsistency. **(13583)**
- ✅ Simulation results are now reproducible even with pedestrians passing a start/end area of a ramp while following a dynamic potential fiels. **(13524 ⛔)**

Workspace

- ✅ Closing the main window during a simulation run cannot cause a crash due to pending error messages anymore. **(13309)**

⛔ Breaking Changes

Viswalk

- ⛔ Networks with conflict areas for pedestrians can have different simulation results from previous versions. **(13473 ✅)**
- ⛔ Simulation results of networks with ramps and dynamic potential can differ from previous versions. **(13524 ✅)**

10.00-12 [74323]   2018-10-17

✅ Fixed Bugs

Signal Control

- ✅ Detectors for specific vehicle classes now send the correct impulse memory value to the controller even if a filtered vehicle is still on the detector when a relevant vehicle enters the detector. **(13405)**

Vehicle Simulation

- ✅ Deadlock situations with parking out in reverse have been fixed. **(13355)**
- ✅ Overtaking in opposing traffic cannot cause a crash anymore in situations without routing information. **(13369)**
- ✅ Passing vehicles on the adjacent lane works correctly now in combination with overtaking on the same lane. (In specific situations, a vehicle could be blocked unnecessarily before.) **(13398 ⛔)**
- ✅ Vehicles which are using a driving behvior without "smooth closeup" don't fail to brake in time at red signals anymore. (This problem had been introduced in version 10.00-11.) **(13399 ⛔)**

⛔ Breaking Changes

Vehicle Simulation

- ⛔ Driving behaviors with "observe adjacent lane(s)" and "overtake on the same lane" can cause simulation results to differ from previous runs. **(13398 ✅)**
- ⛔ Driving behaviors without "smooth closeup" can cause simulation results to differ from previous versions. **(13399 ✅)**

10.00-11 [73974]   2018-09-28

➕ New Features and Changes

License Handling

- ➕ Thesis Licenses include Bing Maps again. **(13284)**

Scenario Management

- ➕ Later changes of the base network are now handled more flexibly, ignoring "impossible" objects on non-existing links or areas when loading a modification / scenario instead of canceling that with an error message. **(12259)**

✅ Fixed Bugs

Demo Version

- ✅ The demo version of Vissim includes RBC now. **(12858)**

DriverModel.DLL Interface

- ✅ The error message about inconsistent data from the DLL upon a new lane change back to the previous lane before the desired lateral position on the new lane has been reached (only with SIMPLE_LANE_CHANGE) doesn't show anymore. When the DLL sets LANE_CHANGE_ACTIVE, the lane angle is set now immediately by Vissim (assuming 3 seconds for the lane change), ignoring the angle passed from the DLL in that first time step. Subsequently, during the lane change, the angle passed from the DLL is not ignored anymore and must have the same sign as the lane change. **(13215)**

Dynamic Assignment

- ✅ A vehicle which is not yet on a real parking space cannot be considered to have parked anymore when coming to a stop closely upstream (which could cause a subsequent crash in previous versions). **(13012)**
- ✅ The flow bundle visualization doesn't show a 1 pixel wide bar for links with paths but zero volume anymore. **(12641)**

License Handling

- ✅ Classroom licenses (USA) can now actually use RBC (level 3). **(13358)**

Scenario Management

- ✅ If a modification cannot be loaded, there are now options to remove that modification from the scenario and to continue loading the scenario, or to return to the base network, in addition to closing the project. **(13034)**

User-Defined Attributes

- ✅ The UDA "UseVehRouteNo" at static routing decisions cannot cause a crash anymore when a vehicle changes onto a new link in the same time step where it passed the decision. **(13067)**

Vehicle Simulation

- ✅ Deadlocks caused by reversing out of parking lots have been removed. **(13300)**
- ✅ Lane change attributes of lanes can now also be modified (e.g. from a COM script) during a simulation run with an active evaluation for links, queue counters, delays and/or travel times. **(13345)**
- ✅ Possible deadlocks upon reversing out of a parking space have been fixed. **(13109 ❗)**

Viswalk

- ✅ "Boarding volumes" attributes (specifically the PT line selection) at PT stops affect now alighted passengers as well who wait for another PT vehicle. **(13346 ❗)**
- ✅ Pedestrians don't "stack" anymore in specific situations at the start of an escalator. **(13212 ❗)**
- ✅ The simulation doesn't crash anymore in networks with partial routes of the type "travel time" or "service point selection" and ("density" or "quantity"), independently of the numbering of these routes. **(13308)**

❗ Breaking Changes

Vehicle Simulation

- ❗ Behavior during reversing out of a parking space can be different from previous version. **(13109 ✅)**

Viswalk

- ❗ Simulations results with escalators can differ from previous versions. **(13212 ✅)**
- ❗ Simulations with alighting passengers who then board again can have results diiffering from previous versions. **(13346 ✅)**

10.00-10   [72759]   2018-08-06

✅ Fixed Bugs

ANM Import / Dynamic Assignment

- ✅ Improved usage of turning movements using small connectors on the inner lane of a multi-lane roundabout. **(12830)**

Dialogs

✅ The priority rule dialog shows pedestrian classes again for pedestrian links (not vehicle classes). **(12546)**

Dynamic Assignment

✅ Edge closures which refer non-existing nodes are completely ignored now when reading the *.inpx file. (Previously, they could be mapped to multiple existing edges, making it impossible to delete the edge closure.) **(13027)**

Graphics

✅ A change of the attribute "type" of a signal head is now immediately visible in the 3D view as well. **(13095)**

Meso Simulation

✅ Links with very high numbers (> 2^31) cannot cause a misleading error message anymore about conflict areas intersecting with borders of sections for micro simulation. **(13055)**

Vehicle Simulation

✅ The following problem has been fixed:
If a signal head on link A is locted withing multiple diverging or merging conflict areas, then vehicles on the conflicting links B, C, ..., are ignored by vehicles upstream of the signal head on link A for all these conflict areas except the one ending first on link A.
Now, if there is at least one such conflicting vehicle on link B, C, ..., one of these is considered. **(12990 🔴)**

🔴 Breaking Changes

Vehicle Simulation

🔴 Networks with signal heads located inside multiple diverging or merging conflict areas can have different simulation results from previous versions. **(12990 ✅)**

10.00-09 [71836]	**2018-06-21**

➕ New Features and Changes

Graphics

➕ The value of the attribute "Current 3D state" of vehicles with category pedestrian or pedestrians (no visible attribute) is automatically changed between time steps (depending on the speed) only if the model file has exactly 3 or exactly 21 states. **(13040)**

Network Editor

➕ Keyboard shortcut Ctrl+R for "Recalculate Spline" of all currently selected links and connectors. **(4166)**

✅ Fixed Bugs

DriverModel.DLL Interface

✅ A value for DRIVER_DATA_DESIRED_LANE_ANGLE passed from the DLL is now handled correctly: The lateral movement dy of the front axle of the vehicle is calculated from this angle and the distance dx traveled by the vehicle in the current time step: dy = dx * tan(angle). **(13026)**

Presentation

✅ A misleading error message during AVI recording for a vehicle referenced in a keyframe which is not (yet) in the network has been fixed. **(13021)**

Vehicle Simulation

- The following problem has been fixed for vehicles using a driving behavior with desired lateral position "Any" (at free flow): If a vehicle reached a new link/connector during an active lane change and if the vehicle was already on the outermost lane of the new link in that direction, that lane change was immediately stopped even if the target lane was the current lane and if the vehicle was not yet on the new lane with its full width. If that driving behavior had lateral position "Any" but neither "Observe djacent lane(s)" nor "Overtake on same lane" active, the vehicle subsequently stayed on that lateral position (on the lane marking) because of the stopped lane change. **(13025 ⓘ)**
- Vehicles using a driving behavior with "Observe adjacent lane(s)" or "Overtake on same lane" don't get frightened anymore by an overtaking vehicle using a smaller lateral distance than they would accept themselves, so they don't execute emergency braking in such a situation. **(12988 ⓘ)**

Viswalk

- A pedestrian standing just at the border of a detector (and moving slightly back and forth) cannot cause a crash anymore (because of the internal 20 time steps per simulation second). **(12967)**
- A pedestrian who doesn't manage to board a PT vehicle before its departure and thus returns to the nearest waiting area cannot cause a crash anymore if that waiting area can be accessed only by using an elevator. **(13022)**
- Area measurements including a section containing a ramp don't have unrealistic high values for the pedestrian density anymore. **(12935 ⓘ)**
- Static routing decisions with all relative volumes zero cannot cause a crash anymore in a time interval without own volume which has to serve some latent demand from the previous time interval. **(12975)**

ⓘ Breaking Changes

Vehicle Simulation

- ⓘ The lateral movement of a vehicle using a driving behavior with desired lateral position "Any" and reaching a new link/connector during an active lane change can behave differently from previous versions. **(13025 ✓)**

Vehicle Simulation

- ⓘ Driving behaviors with "Observe adjacent lane(s)" or "Overtake on same lane" can cause different simulation results from previous versions. **(12988 ✓)**

Viswalk

- ⓘ Area measurements including a section containing a ramp can have different pedestrian density results from previous versions. **(12935 ✓)**

10.00-08 [71594]   2018-06-04

⊕ New Features and Changes

COM Interface

- ⊕ New method IVehClassGapContainer.AddVehClassGap() which allows to add vehicle class specific conflict area attributes. **(12951)**

Viswalk

- ⊕ Dynamic potential can now be used on ramps as well. **(12863)**

✓ Fixed Bugs

DriverModel.DLL Interface

- ✓ DRIVER_DATA_NVEH_LANE_ANGLE doesn't show the lane angle of the ego vehicle anymore but correctly the lane angle of the nearby vehicle. **(12998)**

Dynamic Assignment

- ✓ Flow bundle values (select link analysis) are now updated correctly after the assigned time interval has been changed. **(12809)**
- ✓ Flow bundles (select link analysis) are not updated correctly after a simulation run. **(12832)**
- ✓ Matrix estimation is much faster now in large networks with many paths and OD-relations. **(12886)**

Graphics

- ✅ 3D visualization from driver's perspective does work now as well if Chinese is selected as language. **(12901)**
- ✅ Vissim doesn't crash anymore upon display of large *.ecw images. **(10631)**

Presentation

- ✅ Animation recording works correctly now for vehicles on connectors even if the attribute "Additional level" of the section is empty. **(12916)**

Vehicle Simulation

- ✅ If a signal head on link A is located inside a merging or branching conflict area, vehicles on the other link B were invisible for the vehicles on link A upstream of the signal head as long as the vehicles on link B had not reached the position of the signal head (projected onto link B) and as long as the vehicles on link A had to stop, i.e. always on red and mostly on amber. This problem has been fixed, also for priority rules inside conflict areas. **(12929 ⊘)**

⊘ Breaking Changes

Vehicle Simulation

- ⊘ Simulation results in networks with signal heads or priority rule stop lines inside branching or merging conflict areas can be different from previous versions. **(12929 ✅)**

10.00-07 [70998]   2018-04-18

⊕ New Features and Changes

License Handling

- ⊕ "Academic License" is shown in the title bar and in the license dialog if an academic license is used. **(12280)**

Vehicle Simulation

- ⊕ New attributes for slower recovery from speed breakdown: "Recovery slow" (flag), "Recovery threshold speed" (percentage), "Recovery distance" (m/ft), "Recovery acceleration" (factor in percent < 100), "Recovery safety distance" (factor in percent > 100).
  A vehicle using a driving behavior with active RecovSlow checks in each time step if its current speed is lower than RecovSpeed % of its desired speed. As soon as this happens, the vehicle uses the other recovery parameters for the next RecovDist m/ft (provided it still has RecovSlow active in its driving behavior): In the interaction state "Free", the vehicle accelerates only with RecovAcc % of its normal acceleration, and the speed-dependent part of the safety distance is increased to RecovSafDist %. This more cautious behavior is stopped as soon as the vehicle uses a driving behavior with passive RecovSlow, and not later than RecovDist m/ft after the start condition was met for the last time. **(12768)**
- ⊕ The vehicle attributes "Headway", "Leading target type" and "Leading target number" have now correct values also for vehicles which are controlled by COM or the Driving Simulator interface.
  The internal interaction attributes (Following distance, Speed difference, Safety distance, Interaction state, Interaction target number and Interaction target type) are all marked as irrelevant (because the internal car following model has not been used) and set to zero (FREE). **(12098 ⊘)**

✅ Fixed Bugs

Demo Version

- ✅ Installation of a later service pack of the same main version does now restart the 30 days expiration time again. **(12837)**

Dialogs

- ✅ Some labels in the priority rule dialog were cut off in French language. This issue has been fixed. **(12695)**

- ⊘ Spurious crashes upon adding an attribute in the attribute selection dialog have been fixed. **(12745)**

Dynamic Assignment

- ⊘ Create Static Routing cannot fail anymore because of matrix cell values close to zero which result in an allegedly negative row total. **(12774)**

Evaluations

- ⊘ An extremely high value for "start of delay segment" in the node evaluation configuration doesn't cause a crash during the initialization of the simulation anymore. **(12775)**

Graphics

- ⊘ The Nvidia graphics driver could cause a crash during the startup of Vissim 10 on Windows 7 on notebooks with integrated graphics and Nvidia graphics ("Optimus", especially if the Nvidia graphics was selected for Vissim). This issue has been resolved. **(12843)**

Vehicle Simulation

- ⊘ Improved handling of long vehicles which are parking out in reverse. **(12777)**

Viswalk

- ⊘ A pedestrian trying to board and leaving the platform edge in the same time step when the PT vehicle starts to move doesn't cause a crash of the simulation anymore. **(12776)**
- ⊘ Alighting passengers trying to get to a PT line which doesn't have a platform edge assigned to its PT stop don't cause a crash anymore. **(12754)**
- ⊘ Improved behavior for pedestrians trying to get to the head of a queue. **(12755 🛑)**
- ⊘ Obstacles which are completely inside walkable ground but touch the outer border with a single polygon point cannot be ignored by pedestrians anymore. **(12757 🛑)**
- ⊘ The routing option "Ban elevator use" is now always observed. **(12713 🛑)**

🛑 Breaking Changes

Viswalk

- 🛑 Pedestrian routes with "Ban elevator use" can cause different simulation results from previous versions. **(12713 ⊘)**
- 🛑 Queueing areas can cause different simulation results from previous versions. **(12755)**

Vehicle Simulation

- 🛑 Some vehicle attributes can show different values from previous versions if vehicles are controlled by COM or the driving simulator interface. **(12098 ⊕)**

Viswalk

- 🛑 Obstacles touching the outer border of the walkable area with a single polygon point can cause different simulation results from previous versions. **(12757 ⊘)**

10.00-06 [70265]

⊕ New Features and Changes

Data Model

- ⊕ Additional separate numeric calculated attributes for the world coordinates of vehicles and pedestrians: CoordFrontX, CoordFrontY, CoordFrontZ, CoordRearX, CoordRearY, CoordRearZ; only for pedestrians: CoordCentX, CoordCentY, CoordCentZ. **(3855)**

Meso Simulation

- Detectors for vehicle-actuated signal controllers can be used now. (If a detector is located inside a meso node and upstream of a signal head, that detector is treated as being located directly upstream of the signal head which is treated as being located just outside of the node. Vehicle speed and PT telegram data are not detected in meso simulation.) **(9816)**

Viswalk

- The route information of pedestrians is now saved in the *.ani file and can be shown upon replay. **(12017)**

Workspace

- In the Vissim main window title bar (and thus in the tooltip on the Vissim icon in the task bar), the loaded network file is shown before Vissim and the version number. **(12187)**

Fixed Bugs

DriverModel.DLL Interface

- A vehicle starting a lane change while it's rear end is not yet on the input link cannot cause erroneous error messages anymore about inconsistent data being sent from the DLL when the lane angle passed from the DLL is being set. **(12676)**

Driving Simulator Interface

- In the Unity example, Vissim links with positive z coordinates are imported correctly now. **(12727)**

Graphics

- "Flashing don't walk" is shown correctly now (as long as the signal state is amber). **(11960)**
- Corrupt *.v3d files (V3DM models) cannot cause a crash anymore when selecting them for a new static 3D model object. **(12721)**
- Link bars are now always shown correctly even if different attributes are selected for width and color and if a manual width scaling is active. **(12617)**

Vehicle Simulation

- All vehicles may start a lane change directly upstream of a merging or diverging conflict area now. Vehicles on the (green) priority link may also start a lane change directly upstream of a crossing conflict area. **(12703)**
- If the "Desired lateral position at free flow" is set to "Right" or "Left" in the current driving behavior and if neither "Observe adjacent lane(s)" nor "Overtake on same lane" is activated, vehicles on all inner lanes drive with their middle on the lane marking (relative lateral position 0 respectively 1). **(12714)**

Viswalk

- An obstacle concealing a complete pedestrian link with conflict areas doesn't cause a crash upon simulation start anymore. Obstacles which split a pedestrian link in separated parts (which can cause conflict areas not to behave as expected) are mentioned in a warning message now. **(12720)**
- Pedestrians don't react anymore on signal heads of passive controllers. **(12649)**
- The grid cell evaluation works correctly now even if the evaluation start time is not a multiple of the interval length. **(12666)**

Breaking Changes

Vehicle Simulation

- Conflict areas on multi-lane links can cause different simulation results from previous versions. **(12703)**
- The lateral behavior of vehicles on links with more than 2 lanes can be different from previous versions if the "Desired lateral position at free flow" is set to "Right" or "Left" in the current driving behavior and if neither "Observe adjacent lane(s)" nor "Overtake on same lane" is activated. **(12714)**

Viswalk

- Passive signal controllers may cause different simulation results from previous versions. **(12649)**
- The grid cell evaluation results can differ from previous versions if the evaluation start time is not a multiple of the interval length. **(12666)**

10.00-05 [69293]

⊕ 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 erros 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 differenct 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 arring 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 were pedestrians have priority over vehicles. **(12496 ✅)**
- ❗ Simulation results may be different if there are queues with approaching method 'Static potential'. **(12572 ✅)**

10.00-04 [68509]   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 manoeuver 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 anmyore 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 alsways 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 vehicles 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'²"; 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 that 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 ✓)**

10.00-00 [66337]   2017-07-06

⊕ 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 he 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)**