New developments in PTV Vissim / Viswalk 8
NEW IN PTV VISSIM / VISWALK 8
TALL – GRANDE – VENTI

- Many small but useful extensions, e.g.
  - Compass, user-defined logo, simulation clock, link bars
- Medium-sized roadmap features
  - Persistent COM scripts with function calls
  - BIM Converter
  - Overtaking in the opposing lane
  - Dynamic assignment extensions
  - User-defined attributes
- Big ones
  - Scenario management
  - Mesoscopic & hybrid simulation
NEW IN PTV VISSIM 8
MESOSCOPIC & HYBRID SIMULATION

- Event based ⇒ very fast but still individual vehicles
- Uses dynamic assignment ⇒ parking lots, matrix files

**Input**
- Meso nodes
- Parameters for driving behaviors, links & conflict areas (meso turns & turn conflicts)
- Sections for micro simulation
- ANM import works

**Output**
- Dynamic assignment results, meso lane results
- Link evaluation, network evaluation
NEW IN PTV VISSIM 8
MESOSCOPIC & HYBRID SIMULATION
NEW IN PTV VISSIM 8
MESOSCOPIC & HYBRID SIMULATION
NEW IN PTV VISSIM 8
MESOSCOPIC & HYBRID SIMULATION

- Not (yet) in Meso
  - Vehicle inputs & static routing
  - Pedestrians, cyclists
  - Real parking spaces, route guidance, “decide repeatedly”
  - Priority rules, stop signs
  - Vehicle-actuated signal control, detectors, PT telegrams
  - Partial PT routes
  - Data collection measurements, travel time measurements, delay measurements, queue counters, node evaluation
  - Vehicle visualization

⇒ Use hybrid simulation for all of this
NEW IN PTV VISSIM / VISWALK 8
SCENARIO MANAGEMENT

- Two modes
  - Easy (edit multiple scenarios directly)
  - Expert (construct scenarios from modifications)
- Start: Place Under Scenario Management
  ⇒ Main window title, sub window frame, Project Explorer sidebar
- Continue (easy mode)
  - Save Scenario
  - Save Scenario as
  - Save in Multiple Scenarios
  - Open Scenario
NEW IN PTV VISSIM / VISWALK 8
SCENARIO MANAGEMENT

- Internal file structure
  - Project directory
    - Base network *.inpx
  - Project database
- Subdirectories
  - Backups, Modifications, Scenarios, SharedData, Temp
- Continue (expert mode)
  - Open, edit & save base network
  - Create, open, edit & save modifications, set load order, dependencies & exclusions
  - Assign modifications to scenario(s)
NEW IN PTV VISSIM / VISWALK 8
SCENARIO MANAGEMENT
NEW IN PTV VISSIM / VISWALK 8
USER-DEFINED ATTRIBUTES

- For all static network objects, vehicles & pedestrians
- Used like all other attributes: lists, quick view, COM, charts, color schemes, labels, link bars
- Data source type “Data”
  - Editable
- Data source type “Formula”
  - Calculated
  - Formula editor
  - TableLookup
NEW IN PTV VISSIM 8
DYNAMIC ASSIGNMENT EXTENSIONS

- Reference time interval
- Continuous path search (One-shot assignment)
- Vehicle class specific travel times and volumes
- Path travel times for assignment
- Origin-Destination evaluation
- Further improvements
  - Parking space decisions visible
  - Split links doesn’t void path file
  - Path and edge attributes
    - “travel time raw”, “converged (travel time)”, “converged (volume)”
NEW IN PTV VISSIM 8
OVERTAKING IN THE OPPOSING LANE

- Link attribute “has overtaking lane”
- 3 conditions
  - Overlapping opposing link(s)
  - Gap downstream of slower vehicle
  - No collision with oncoming traffic
- Parameters
  - In subject link
    - Overtaking speed factor
  - In opposing link
    - Look ahead distance
    - Assumed speed of oncoming traffic
NEW IN PTV VISSIM 8
OVERTAKING IN THE OPPOSING LANE
NEW IN PTV VISSIM / VISWALK 8
PERSISTENT COM SCRIPTS WITH FUNCTION CALLS

- Each script call: 0.008 seconds
- COM script with scope “simulation run”:
  - Loaded only once before the simulation run
  - Only function calls during the simulation run
  - Global variables keep their values between function calls
  - Unloaded after the simulation run
- Script body is executed when loaded
- Manual execution is possible
NEW IN PTV VISSIM / VISWALK 8

- Link bars
- Compass
- User-defined logo
- Simulation clock
NEW IN PTV VISWALK 8
(ALMOST) EVERYTHING FROM VISSIM PLUS MORE…

- Most new features are useful for pedestrian simulation, too:
  - Scenario management
  - User-defined attributes
  - Persistent COM scripts
  - Graphics (clock, logo)
- Overtaking in opposing traffic has always been possible 😊
- Only for pedestrian simulation:
  - BIM Import
  - Grid-based display in 3D
  - Experienced density LOS
NEW IN PTV VISWALK 8
IMPORT OF BIM FILES
NEW IN PTV VISWALK 8
IMPORT OF BIM FILES
NEW IN PTV VISWALK 8
IMPORT OF BIM FILES
NEW IN PTV VISWALK 8
IMPORT OF BIM FILES

Gray: walking areas

Green: walls

Orange: Holes in walking areas.
- In BIM/IFC areas/slabs can have holes. This is not allowed in Viswalk. Holes have to be modelled with obstacles. To distinguish these from walls a different color is used.

Red: Elements which should be checked manually. The IFC data is either ambiguous or does not comply with the openBIM standard.
NEW IN PTV VISWALK 8
IMPORT OF BIM FILES
NEW IN PTV VISWALK 8
GRID DISPLAY IN 3D
NEW IN PTV VISWALK 8
LOS DISPLAY DENSITY – AS WE HAD IT BEFORE
NEW IN PTV VISWALK 8
LOS DISPLAY – EXPERIENCED DENSITY OF INDIVIDUAL PEDESTRIANS
NEW IN PTV VISWALK 8

LOS DISPLAY – EXPERIENCED DENSITY OF INDIVIDUAL PEDESTRIANS
NEW IN PTV VISWALK 8
LOS DISPLAY – EXPERIENCED DENSITY ON GRID CELLS
NEW IN PTV VISWALK 8
LOS DISPLAY – EXPERIENCED DENSITY ON GRID CELLS

Experienced Density

Density
PTV VISSIM / VISWALK

WHAT IS NEXT

- Release PTV Vissim / Viswalk 9: Summer 2016
  - More scenario management (results comparison)
  - Faster simulation (vehicles & pedestrians)
  - Matrix editor
  - Elevators
  - … under discussion
  - … you tell us (e.g. on LinkedIn) 😊