

QUICK START GUIDE

Version 5.0

SIMWALK



ABSTRACT

This Quick Start Guide shows in a short overview how to run the demo projects included in free SimWalk Demo and how to view and analyse the simulation results. It is intended to lead users quickly into the main functionalities and capabilities of SimWalk Pedestrian Simulation. For more detailed information see the SimWalk User Manuals.

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EDITION

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01 - Check your PC for the Requirements of SimWalk

SimWalk is a high performance 32/64-bit multi-threaded application which can be very resource intensive. To check whether your PC's performance is suitable for simulation with SimWalk, you can download our free SimWalk System Checker here:

<http://www.simwalk.com/downloads/SimCheck.zip>

For more information about the minimum and recommended system requirements, see the installation manual here: <http://www.simwalk.com/manuals/5.0/Install.htm>

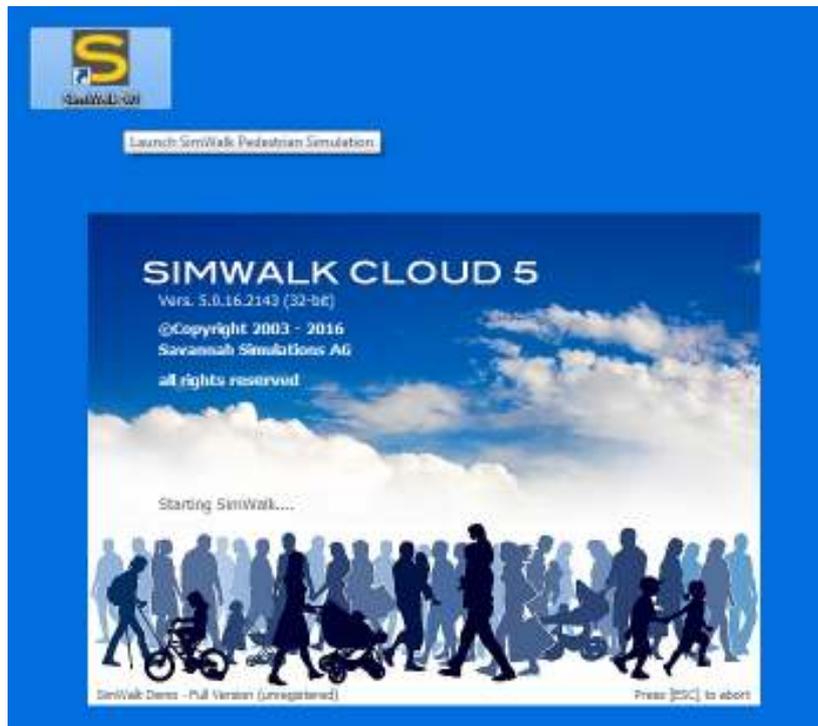
02 - Download and setup SimWalk Demo

The latest version of SimWalk Demo may be downloaded here: <http://www.simwalk.com/download.php>

After completing the contact form, you can download a free copy of SimWalk Demo. Once the download has completed, launch the setup.exe program and follow the on screen prompts, supplying information as necessary.

03 - Launch SimWalk Demo Program

After a successful setup, launch the SimWalk start program by double-clicking the desktop icon or selecting Start > Programs > SimWalk 5.0 > SimWalk Pedestrian Simulation.



The start window opens and the program version, copyright info, and status are shown. If all checks are done and all modules are successfully loaded, SimWalk main program will be launched. You may cancel the start procedure by pressing the [ESC] button.

04 - Run the Demo Project

At the first start of SimWalk, the Welcome window is shown, where you can either:

- Run the Demo Project (described in the following)
- Play the Demo Movie
- Create a new Project (for advanced SimWalk users only)
- Open the Online Help
- View the Program Info
- Go to the SimWalk Website
- Close SimWalk (x)

Note: All other buttons and menus are disabled and not accessible!



SimWalk Main Window opens and loads the default demo project 'Demo_MetroStation'. Furthermore, a second window - SimWalk Data Viewer - is shown in front of the main window, providing an additional view of the layout and the simulation data. By default, the 3D model of the project is displayed, if available. Otherwise, you can select additional display modes in the 2D layout (e.g. density, spatial utilization, speed loss, agent trails...).

You can minimize it if you have a small screen or do not need a second viewer.

Hint: If you have a dual-head video card and a second monitor, you may draw the SimWalk Data Viewer on the second monitor (if enabled in the Options).

► Press into the [Run Demo Project] board to proceed.

05 - Start a Simulation Run

The SimWalk Data Viewer is subdivided into the following areas:

1. Display toolbar - grouping of tool buttons to navigate and control
2. Camera control panel - grouping of camera control elements (3D only)
3. 2D/3D Display - viewbox for 2D and 3D rendering
4. Display control panel - checkboxes to set levels, objects, and agents visibility
5. Timeline and Status bar - graphical runtime indicator and status information

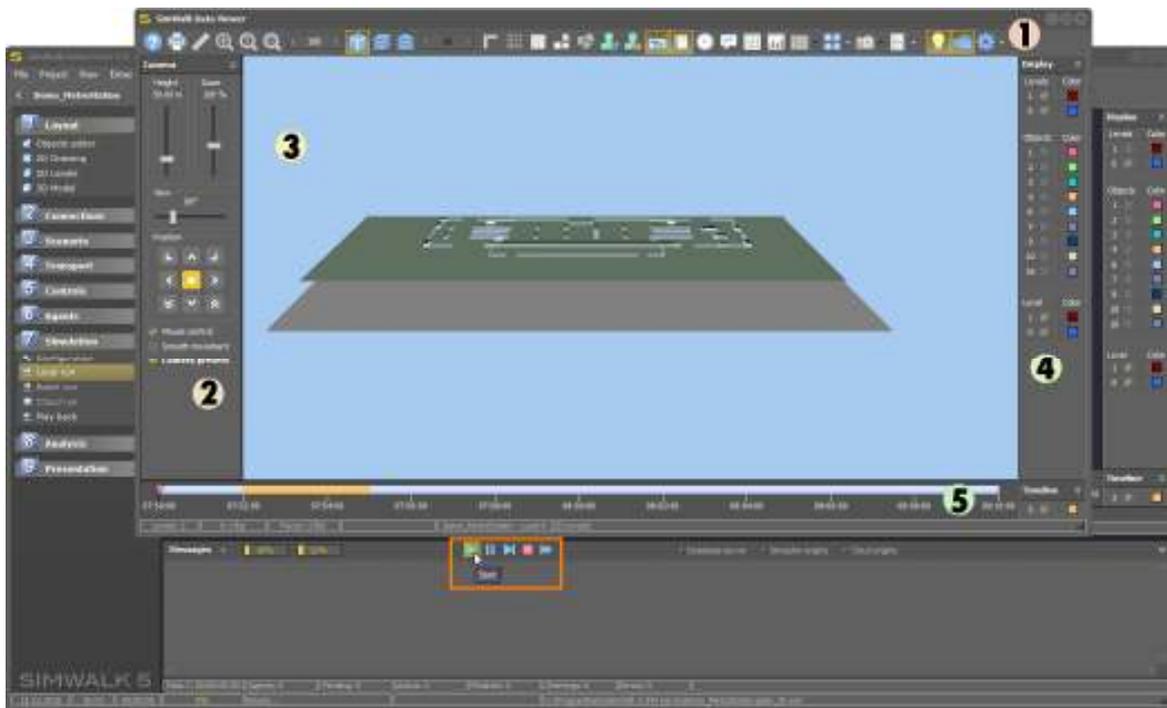


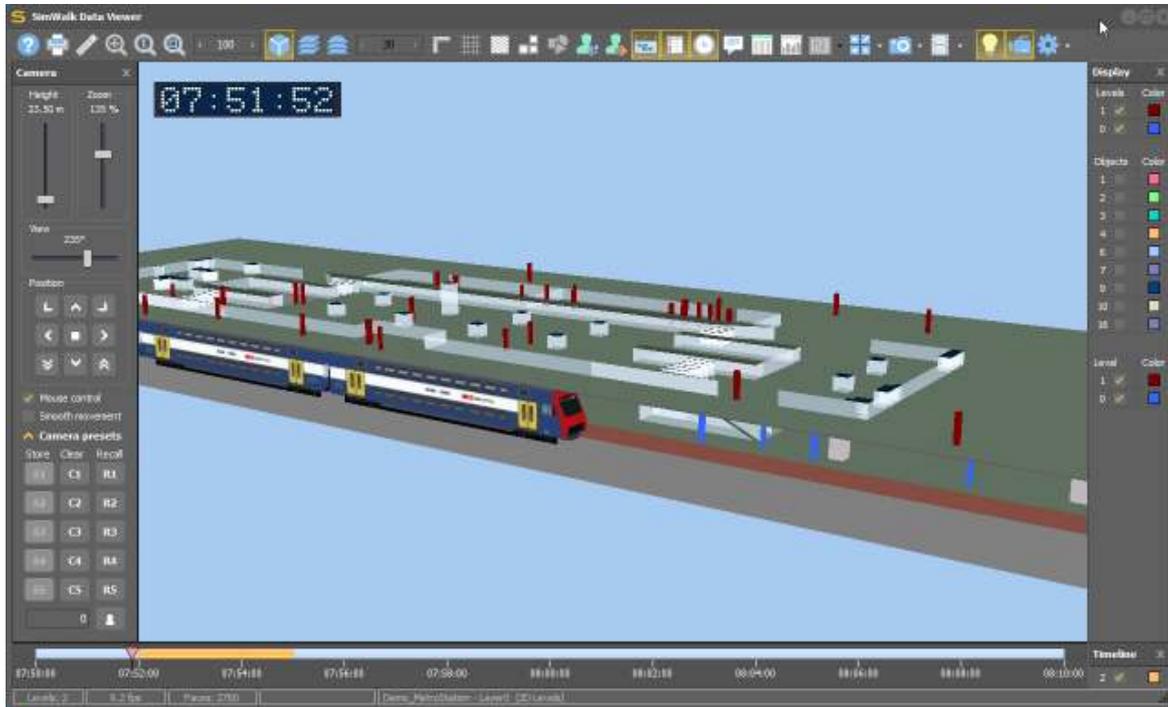
Table 1: Display control panel (4) to show or hide basic objects in the layout:

Color	No	Object	Description
	1	Origin	Area where agents enter the simulation scenario (start)
	2	Destination	Area where agents leave the simulation scenario (exit)
	3	Platform	Area where agents wait on its means of transportation (train, bus, metro, tram...)
	4	Speed regulator	Area which temporarily controls the walking speed of agents inside
	5	Ramp	Inclined plane to change the level suitable for wheelchairs, bicycles, carts, buggies...
	6	Stairway	Flight of steps to change the level in up or down direction by foot
	7	Escalator	Moving stairway to change the level in one direction at fixed moving speed
	8	Elevator	Vertical transportation that moves agents between two levels up or down
	9	Track	Polyline that moving objects (vehicles) can follow and hold for a given time
	10	Vehicle	Moving object can transport agents (passengers) - acts as Origin and/or Destination
	11	Hazard	Simulates a random or time-controlled emergency situation like fire or explosion
	12	Gate	Periodically let pass any number of agents if opened or let all wait if closed
	13	Turnstile	Let pass only one agent every specified service (delay) time
	14	Counter	Line which counts number of crossing agents in one or both directions
	15	Meter	Area which measures number or density of agents inside
	16	Service area	Area where agents can use one or more services (restaurant, kiosk, ticket office...)
	17	Attraction area	Area which may be attractive for agents (shopping arcade, amusement quarter...)
	18	Danger area	Area which may be dangerous for agents (underpass by night, deprived areas...)

► Press the green [Start] button to start a new simulation run.

06 - Navigate in the 2D and 3D Model

SimWalk starts the initialization process. After creating levels, objects, agents, and 3D model and actors, Database server and Simulation engine are launched. Consider the message panel and the status bar for related information. In the meantime the workflow panel and the main menu bar are disabled.



In the Camera control panel you can change the view on the 3D scene. You can also store [S1]...[S5] and recall [R1]...[R5] up to five individual camera settings. Enter an optional agent ID to let the camera dynamically follow that agent. If the 'Mouse control' checkbox is set, you can rotate the camera with the mouse while holding down the left button. Hold down the right mouse button to zoom in or out the scene.

Table 2: Buttons to navigate in the 2D/3D display:

Button	Description
	Switch between 2D and 3D view (if a 3D model is available)
	2D Isometric view - set viewing angle with spin buttons
	2D Perspective view - set viewing angle with spin buttons
	Select area to zoom in - may also be adjusted with spin buttons or [Page up] and [Page down] buttons
	Zoom to 100% (in relation to drawing dimensions) - or press [Home] button
	Zoom to fit layout in the display - or press [End] button
	Make a snapshot of the display - select picture format .swp, .png, .gif, .jpg (60 or 80%), or .bmp (8 or 24 bit)
	Record video frames - select video frame format .gif (256 colors, <2GB) or .png (for AVI/MPEG)
	Print the current display on the Standard Printer

► Release the [3D View] button to switch to the 2D display.

07 - Display auxiliary Information

Select any agent in the active level to track it while showing detailed information.

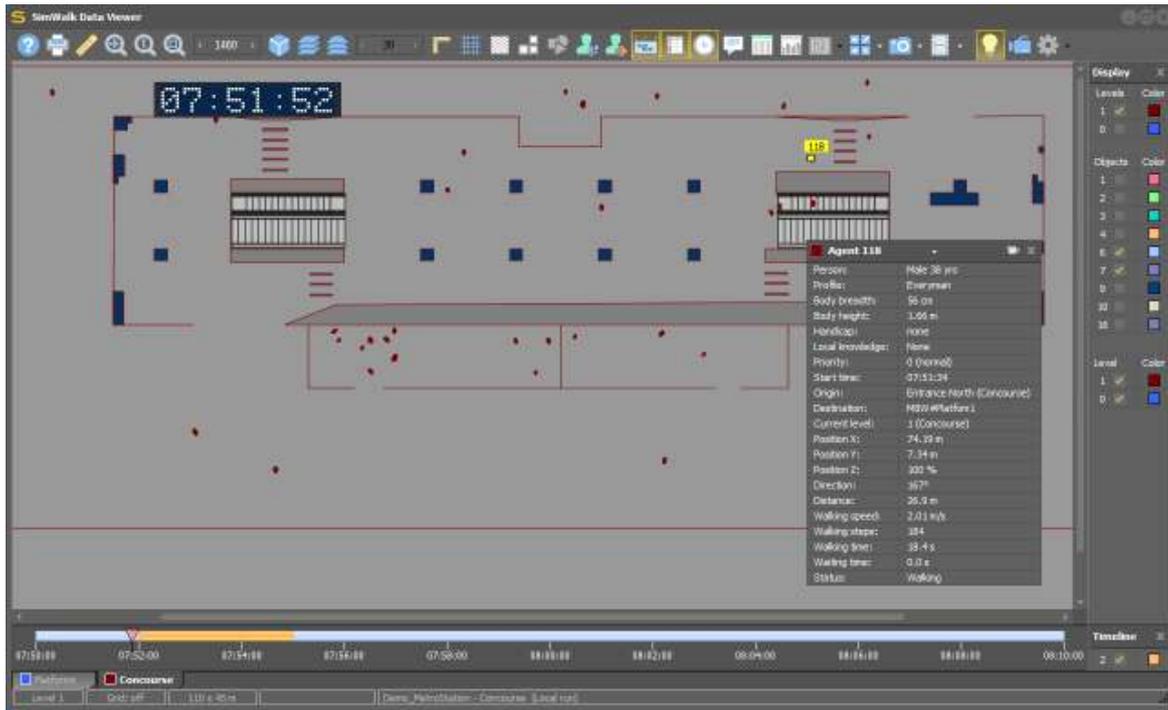


Table 3: Buttons to display additional visual elements in the layout:

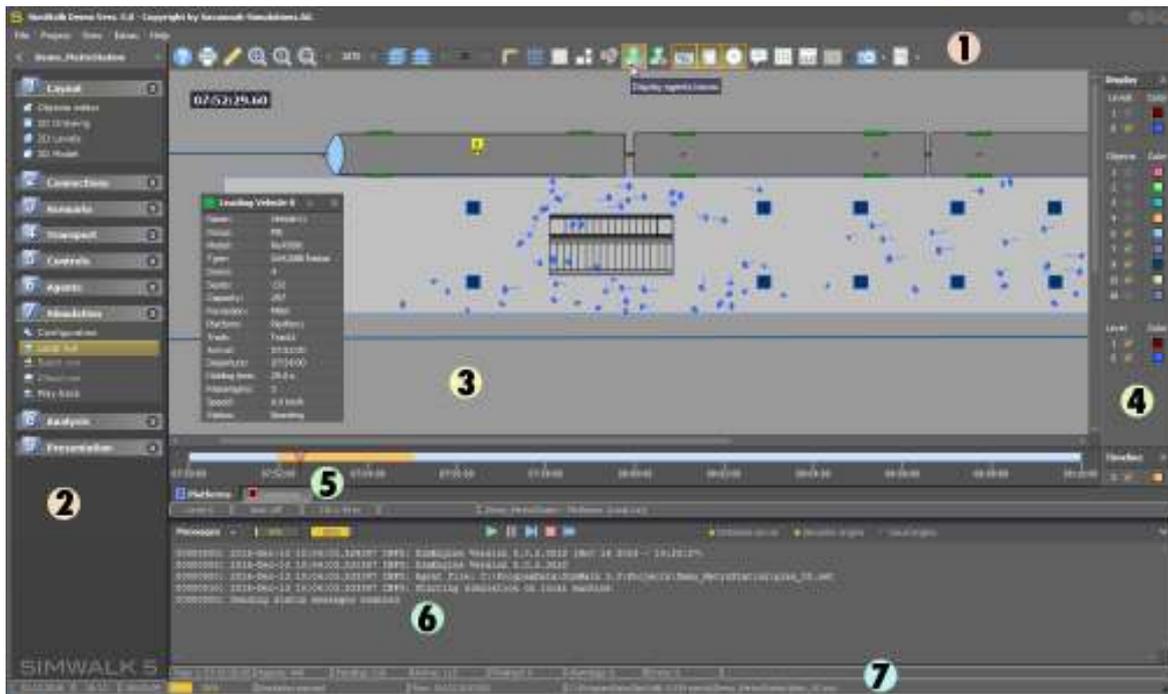
Button	Description
	Open the Program Info where you see the actual version, enabled features, and [Help] button for online manual
	Measure distance between any two points in the 2D layout - Unit and digits are defined in the Options
	Show or hide vertical and horizontal rulers - ruler color is defined in the Options
	Show or hide grid in the layout - grid color, size and type are defined in the Options
	Show or hide the background map (if available) - pictures are loaded in the 2D Drawing / Settings
	Show or hide bitmap images (if available) - images can be placed in the 2D Drawing
	Show or hide library objects (if available) - objects can be placed in the 2D Drawing
	Show or hide Agents traces
	Show or hide Agents speed vectors (arrow depends on walking speed and direction)
	Show or hide display timeline (if at least one formation is defined)
	Show or hide right-sided display legend panel where you can set visibility of levels, objects, and agent groups
	Show or hide runtime clock - move, resize, and setup as you like
	Show or hide text label - enter any text to display - move, resize, and setup as you like
	Show or hide display monitor (if configured) - move, resize, and setup as you like
	Show or hide counter chart (if configured) - move, resize, and setup as you like
	Select counters and meters to display in the layout (if any defined)
	Select display mode - Agents shapes, densities, or trails, Mean/Max. density, Spatial utilization, Speed loss
	Set ambient light on or off in 3D view
	Show or hide the left-sided camera control panel in 3D view
	Open the options drop-down menu

08 - Control the Simulation Run

The SimWalk Main Window is subdivided into the following areas:

1. Application toolbar - grouping of tool buttons according the current task
2. Workflow panel - descending sorted task modules subdivided into task items
3. Application area - viewbox where task-dependent data is displayed
4. Application panel - task-dependent controls to select or enter parameter
5. Timeline and Level tabs - graphical runtime indicator and level selection
6. Message panel - textbox for information, warning, and error messages
7. Status bars - show general, project and simulation related status information

Note: During a simulation run, the Workflow panel is closed and not accessible!



Select any vehicle/agent in the active level to track it while showing detailed information. The active level is chosen by selecting the corresponding tab (5). Additional levels can be shown by setting the desired checkboxes in the Display panel (4). Consider the message panel (6) for relevant warnings, errors, and general information. In the status bar (7), you can monitor the current runtime and the states of the agents (pending, active, or finished).

Hint: Optional you can minimize panels (2), (4), (5), and (6) to extend the display (3).

Table 4: Buttons to control the simulation run.

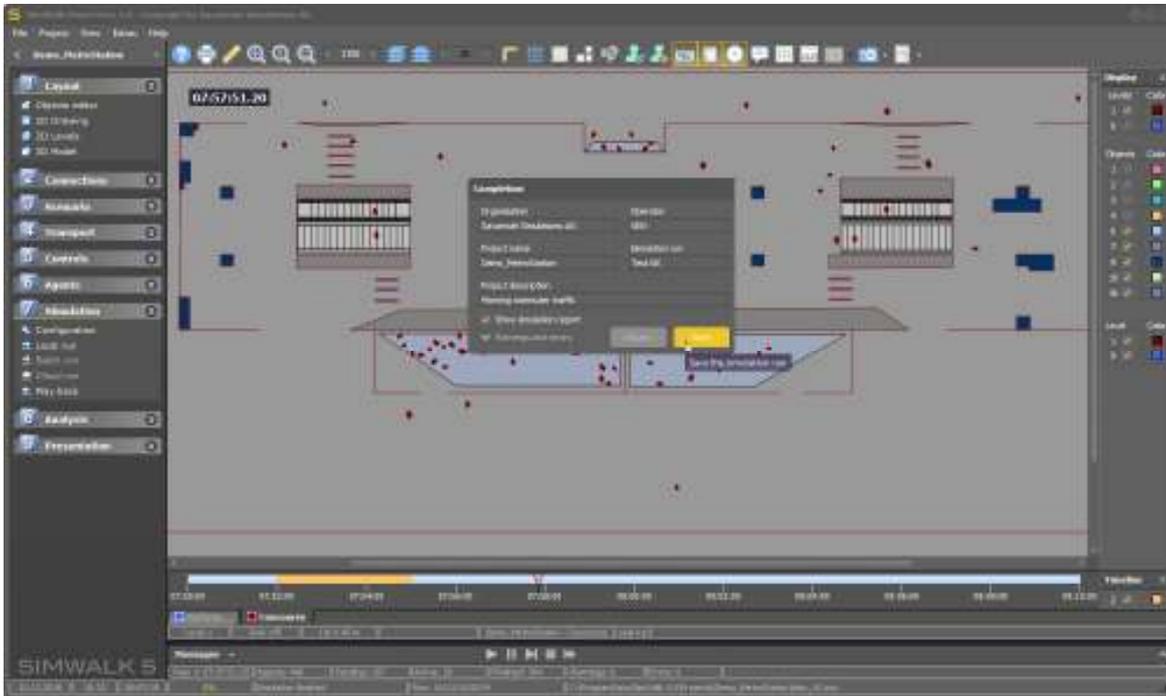
Button	Description
	Start a new simulation run or resume when paused
	Pause the current simulation run
	Single step forward (when paused)
	Stop and discard the current simulation run - CAUTION: All captured data will be lost!
	Stop and finish the current simulation run - captured data can be saved or discarded

► Press the [Skip] button to force termination of the running simulation - or just wait until the simulation has finished regularly.

09 - Complete the Simulation Run

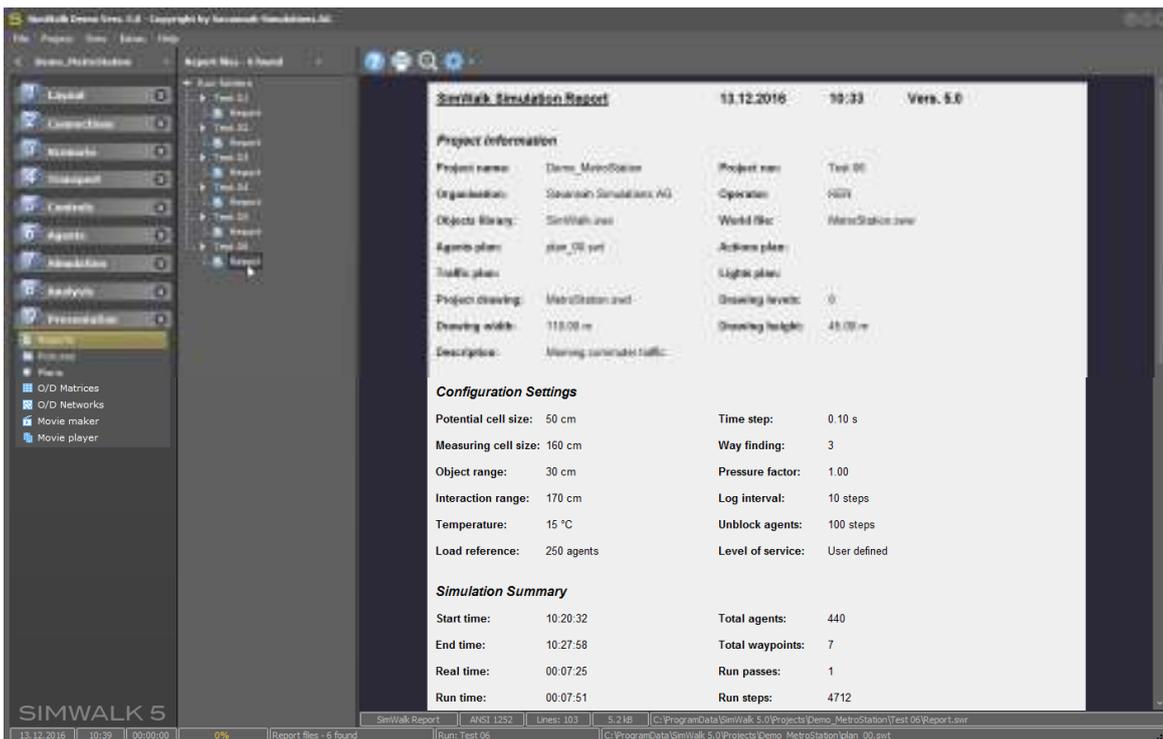
After the simulation has finished, the Completion dialog appears where you may fill in various information about the simulation run. Optionally enter your organisation and your name. Rename the simulation run as you like and enter a suitable project description.

Press the [Discard] button twice if you don't want to save the simulation data.



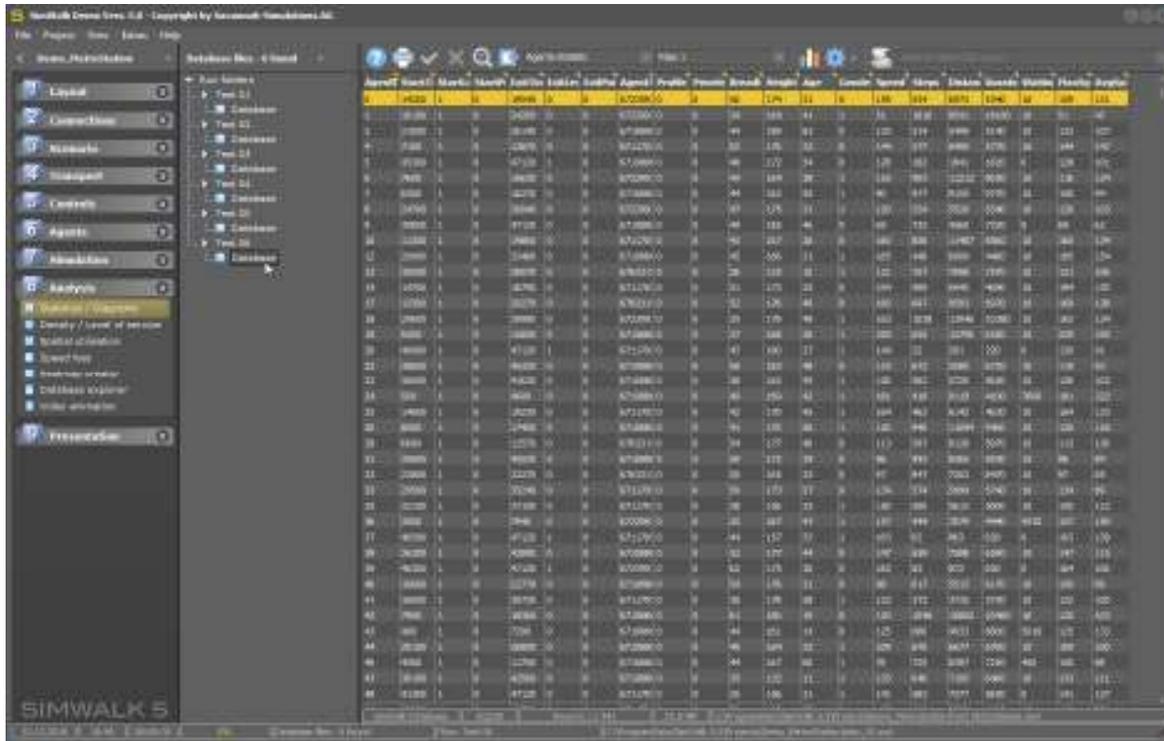
► Press the [Save] button to retain the simulation data for further analysis.

Shortly thereafter, the Simulation report is presented, showing a summary of project information, configuration settings, errors and warnings, and agent's plan and profiles.



10 - Analyse the Simulation Data

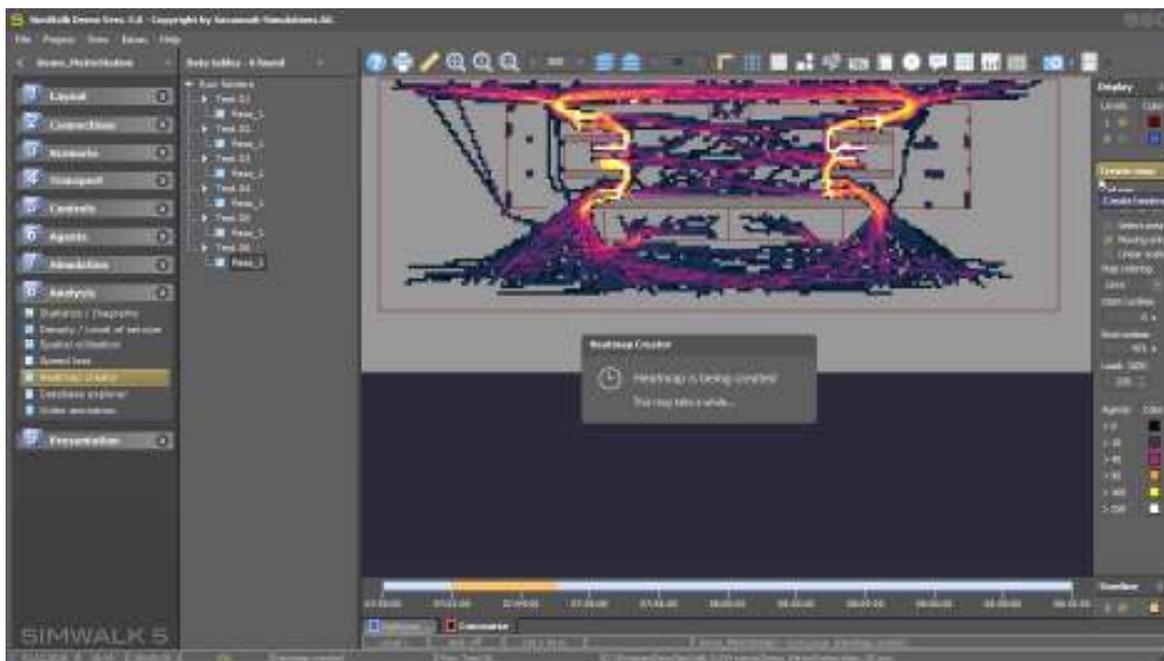
In the Analysis module, you have the possibility to verify, analyze, process, and plot the simulation data stored in various database tables using the Statistics/Diagrams task or the more powerful, SQL-capable Database explorer which provides export capabilities to Excel, Matlab and other 3rd-party tools.



11 - Create Density and Heat Maps

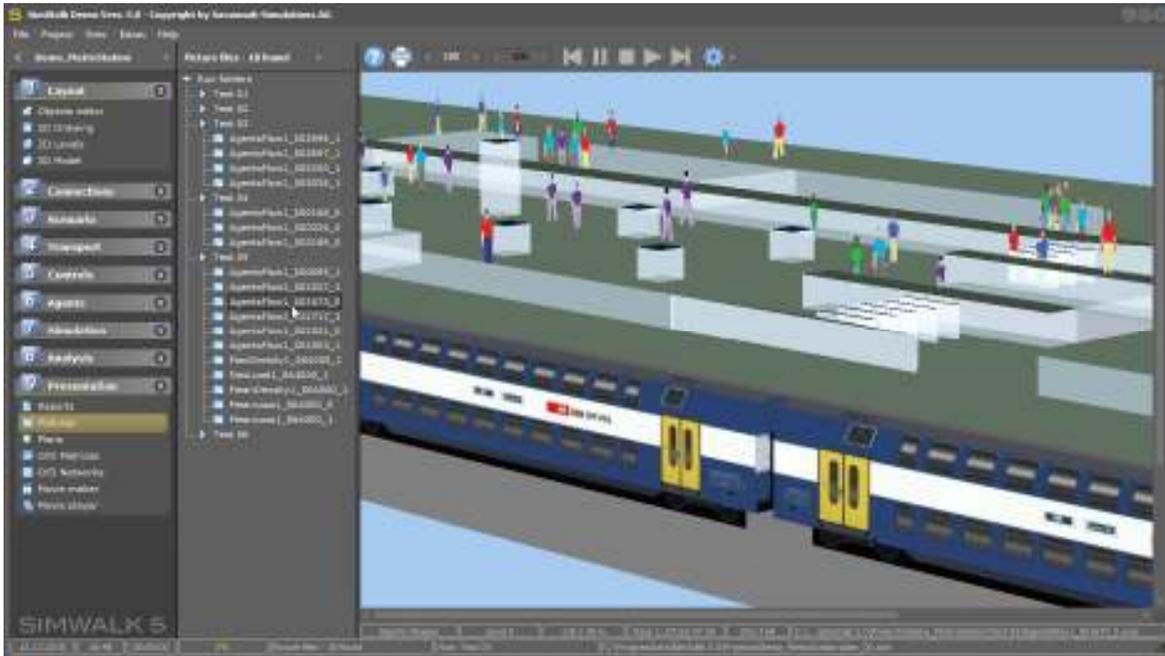
The same module let you create expressive graphic maps of mean/max. densities with several LoS sets (Level of Service), spatial utilization, and speed loss in different color schemes, cell sizes, and run times.

Note: The measuring cell calculations must be enabled in the Simulation/Configuration settings.



12 - Browse the Document Repository

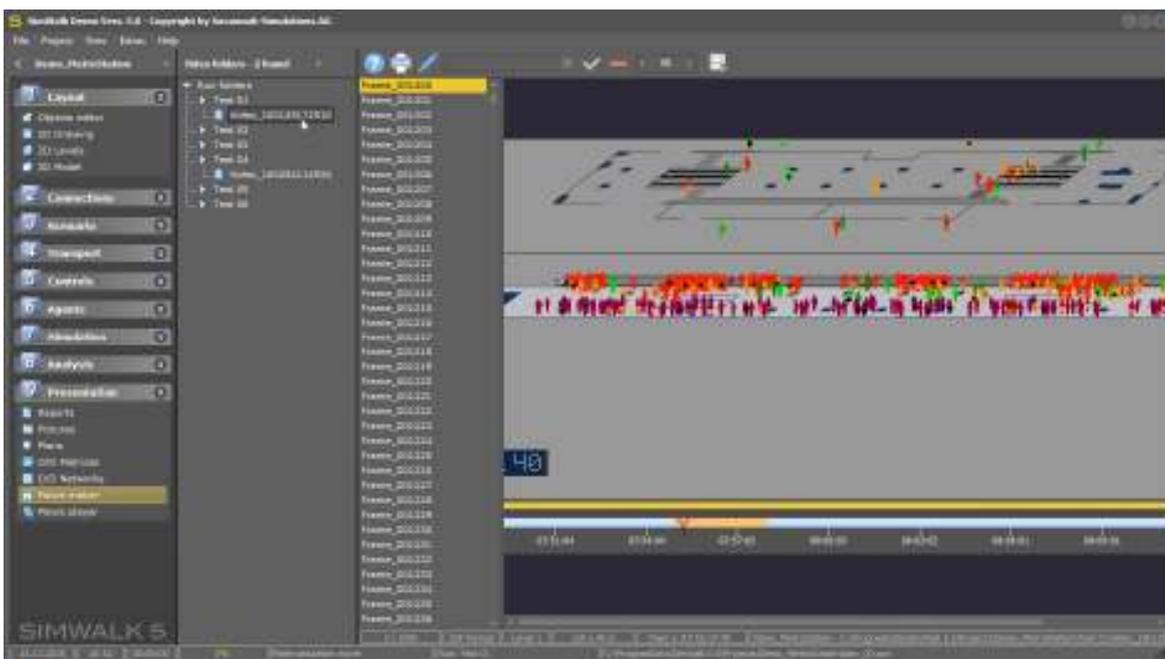
The Presentation module shows you simulation related documents like reports, pictures (from snapshots), agents plans, and origin/destination matrices and networks to print out or for various graphic exports.



13 - Create and play Movies

If you have recorded video sequence(s) of a simulation run, the Movie maker will list and show you the captured video frames in order of the run time. These frames can be used to create either AVI/MPEG or GIF movies depending on the selected video format.

Note: For AVI/MPEG movie creation, the pre-installed free video tool VirtualDub is launched.

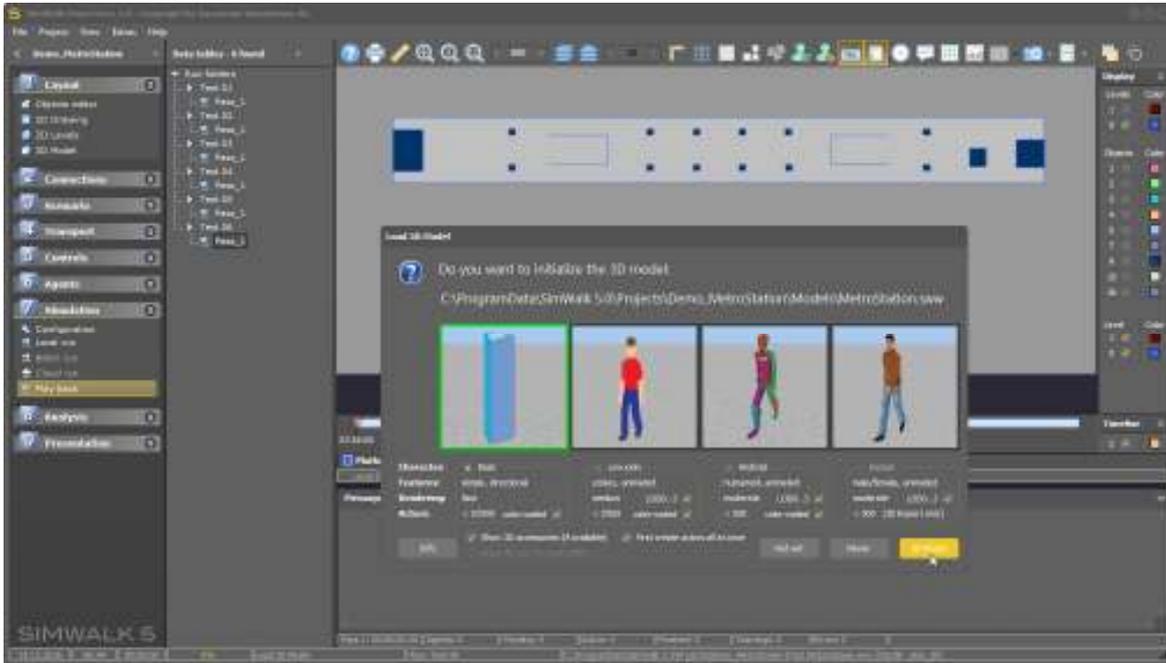


The built-in Movie player is capable of playing both, animated GIF and AVI/MPEG movies.

14 - Playback Simulation from Database

In the Simulation module, you can play back simulation runs stored in the database. After selecting the desired run pass in the file tree, the 3D Model dialog opens where you can select the character type, LOD (Level of details), color coding, and other features for 3D visualization. Press the [Not yet] or [Never] button if you do not want to see 3D visualization.

Hint: Human character types are only available if you have purchased the '3D Expert' feature.



► Select the 'Low-poly' character type (without LOD) and then press the [3D World] button.

The 3D world and actors will be created. This may take some minutes. From this point on, the navigation is similar like in a Local run. Additionally the playback step time can be adjusted and the time line pointer can be moved to a run time of interest. For that, press the [Pause] button to temporarily stop the playback, then you can either move the pointer with the mouse or enter the run time to jump using the [Skip] button.

15 - Get help and further information

In the Help menu of the main menu bar, you can choose the Program info to show program version, build number, license data, and enabled features. If the Internet is connected, you can also access the online user manual, the SimWalk Homepage or E-Mail. In case of technical troubles, you can create and mail us a Diagnostic report, which helps us to analyse the problem.