# Extended Evacuation Simulation Capability and Pedestrian Handicap Modeling

Version 4.0 introduces a new evacuation module with special features and emergency behaviour. Occuptants react realistically to hazards like fires and explosions and choose emergency exits respectively. In addition, 4.0 offers new standard airport operational objects, pedestrian handicaps and accessories, Unicode compliance and an improved drawing board.

1) New Evacuation Simulation Module

- SimWalk 4.0 offers a new evacuation module, integrating a sophisticated "hazard" object to simulate panic situations and emergency evacuations due to fire, explosion or similar threats.

- The module allows to build a repulsive potential field around the hazard depending on physical conditions like heat, smoke or noise. You may define any number of emergency exits and assign it to a manual, random, or time controlled event.

- This event-driven architecture allows defining and associating events, conditions, and actions to perform tasks like:

  - Close or open doors and gates

  - Disable escalators and elevators

  - Animated visual effects

  - Play sounds

  - Record videos

  - Take snapshots

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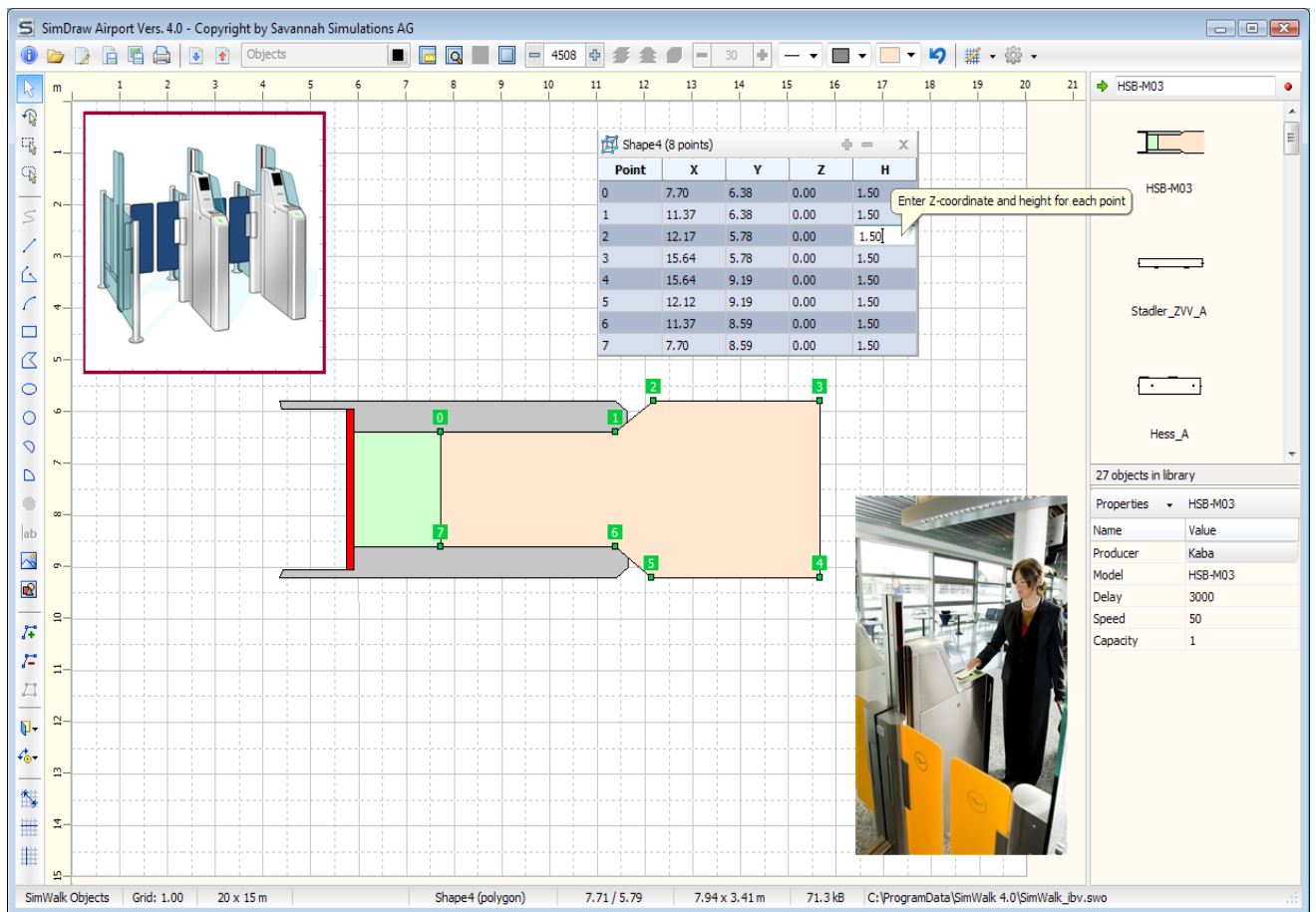
2) Airport Standard Operational Objects

Build your standard objects library specific for your airport for faster simulation set up and analysis. Insert these standard objects in your simulation scenario with just a few mouse clicks.

SimWalk 4.0 Airport version now allows to create self-defined standard airport terminal objects as for example:

- Ticket counters
- Access and security controls,
- Check-ins,
- Passport controls
- Boarding gates
- Baggage claims
- Snack bars
- Kiosks
- and other airport specific objects.

These adaptable and re-usable objects consist of geometrical shapes and SimWalk specific control objects like waiting or delay areas, turnstiles, gates and counters.

In addition, 3D-Easy includes a simple and easy method to define the Z coordinates and heights of all object points to adapt the 2D objects to 3D visualization.

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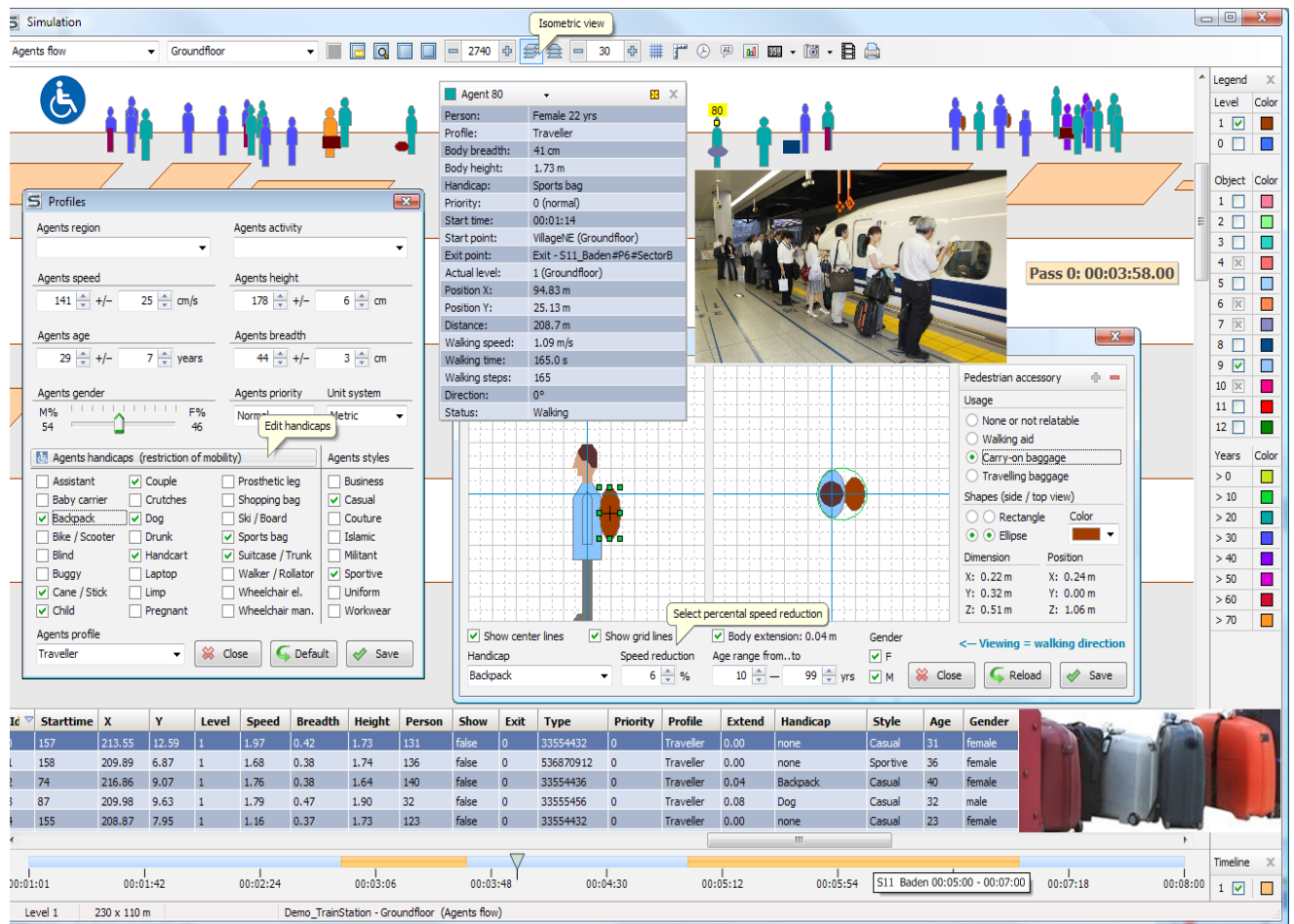
3) Pedestrian Handicaps and Accessories

SimWalk 4.0 introduces custom-specific definition and design of pedestrian handicaps and accessories like:

- Backpack
- Cane
- Crutches
- Handcart
- Shopping bag
- Suitcase
- Wheelchair
- etc.

SimWalk 4.0 allows to define pedestrian accessory, age range, gender, and percental speed reduction for each individual handicap. In addition, use, shape, position and color of each accessory can be defined. Crucially, accessories have a body extension that will affect realistically the agent's walking behaviour in the simulation.

All handicaps may be assigned to one or more agent profiles. Any apparel can be assigned to one ore more agent profiles (used for 3D visualization). For pseudo 3D view, SimWalk 4.0 additionally includes new agent shapes "Symbol" and "Accessory" for human-like appearance.

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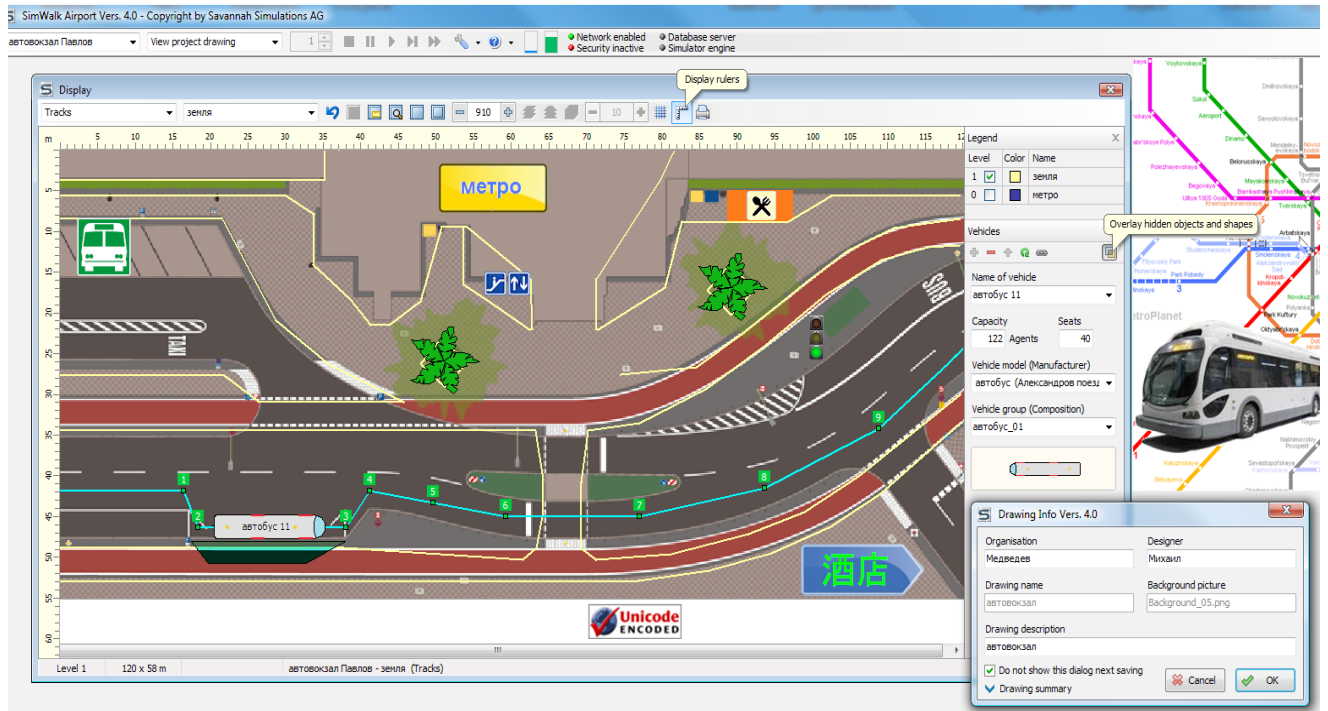
4) Unicode® Compliance

Work with SimWalk in your native language, be it Arabic, Chinese or Japanese.

One of the key features now available in SimWalk 4.0. is the capability to provide Unicode® support for files and folders as well as for project descriptions, levels, runs, waypoints, profiles, objects, vehicles, formations, descriptions and comments.

SimWalk now supports Arabic, Japanese, Chinese, Cyrillic, Central & Western Europe, Hebrew and Greek.

The Unicode® standard is a character coding system designed to support the worldwide interchange, processing and display of texts of the diverse languages of the world. The database and XML files support the UTF-8 multibyte character encoding standard.
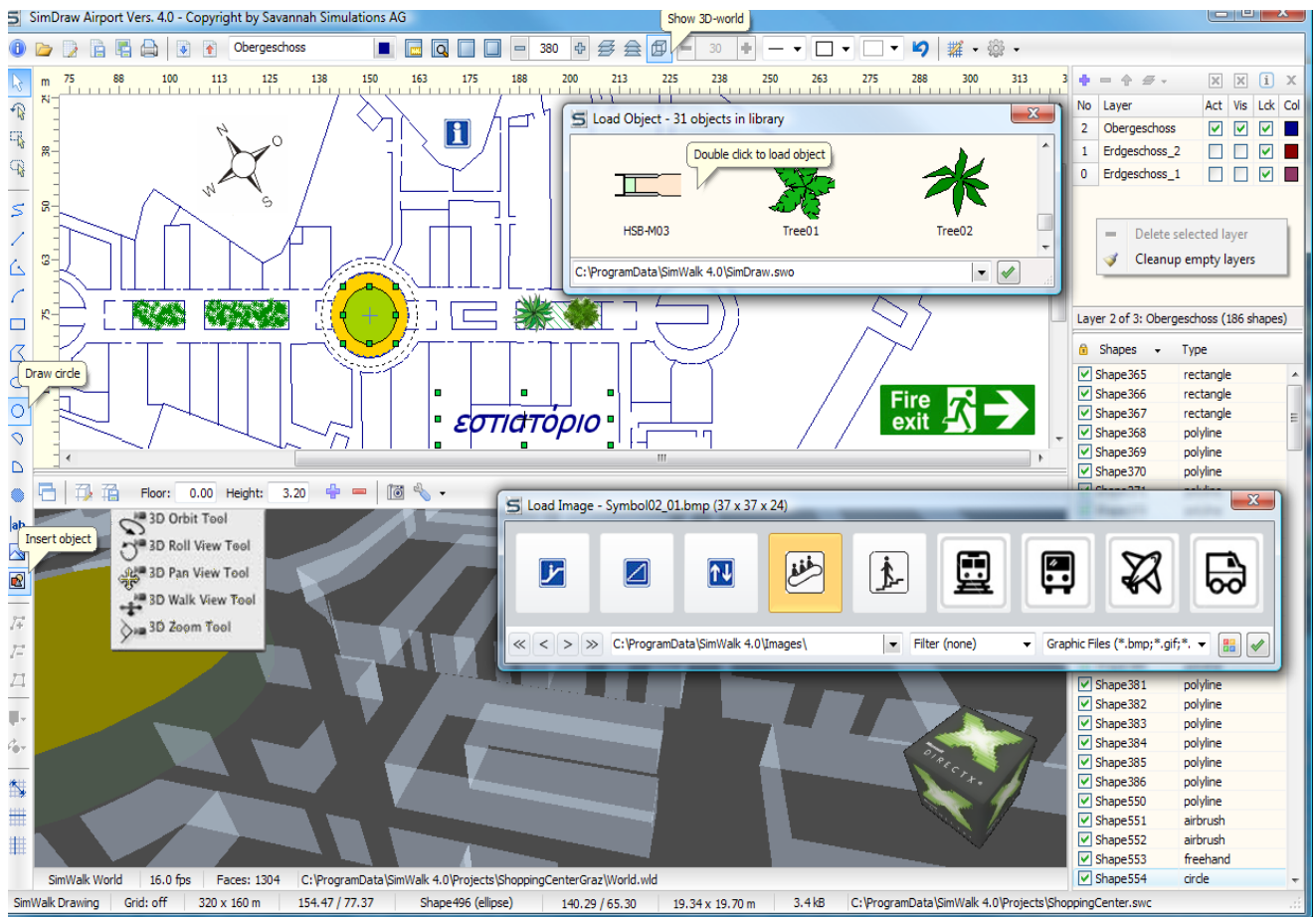
5) Improved Drawing Board

Design the most attractive simulation scenario for your clients.

SimDraw 4.0 includes new drawing tools and capabilities like circle, freehand, airbrush, region select, lined width and style, join lines, close shapes, shape point numbers and semi-transparency. Additional features are:

- Marked shapes are visible but not an obstacle for pedestrians (e.g. crosswalk or road marking)

- Hidden shapes are invisible but an obstacle for pedestrians (e.g. for agents flow control)

- Line designer lets the user create self-defined styles e.g. for tracks, walls, bricks, markings etc

- Import architectural plans (floor or site plan) as background and as design patttern

- Import pre- or self-defined vector-based objects like trees, stairs, lamps, furniture, vehicles etc.

- Thumbnail preview and selection for background pictures, images, and objects

- Useful tools like calculator, offset and scaling shapes, import / export of drawing blocks, objects and vehicles, drawing info and summary, drawing clean up, or 3D-builder (3D-Easy or 3D-Expert only)

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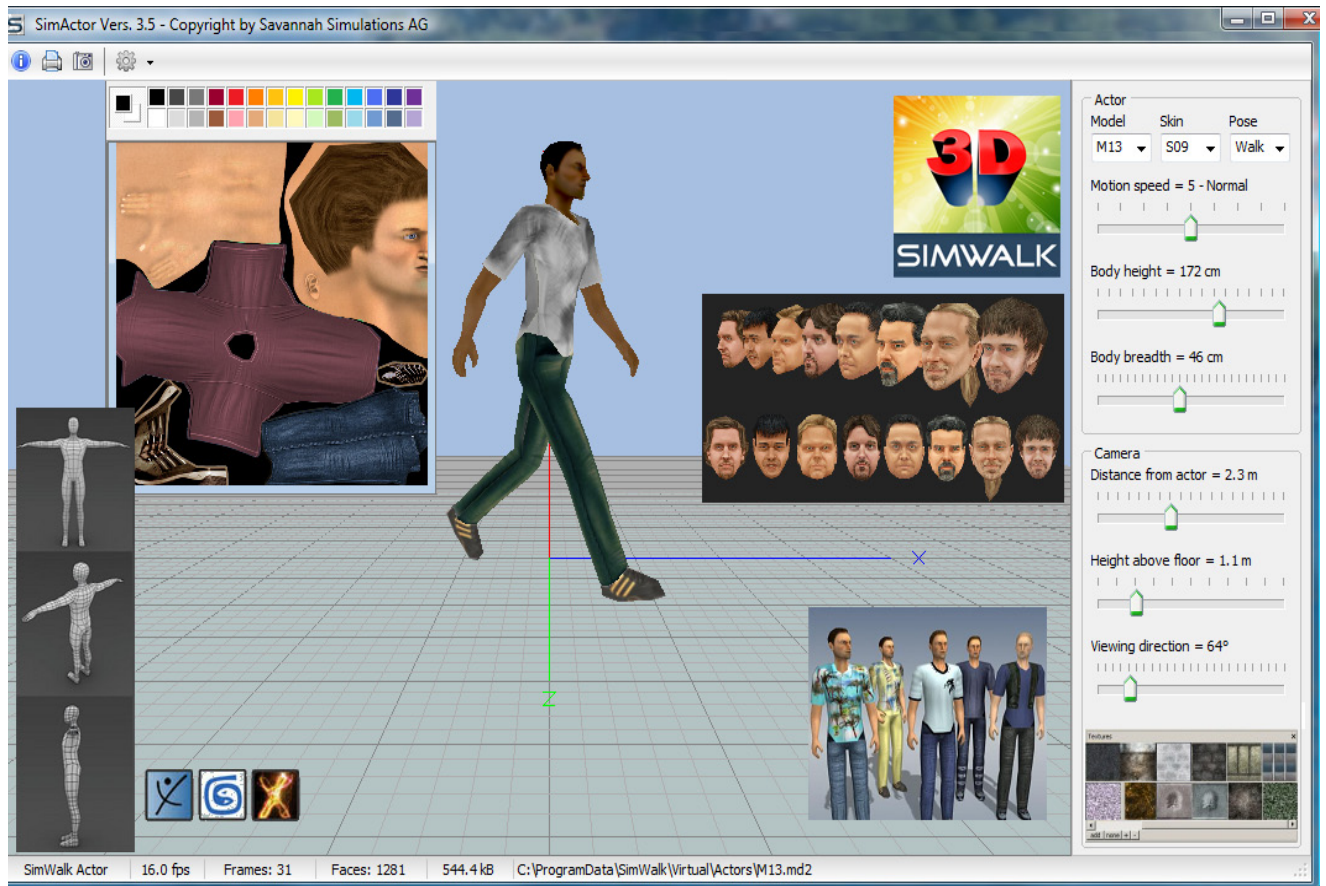
6) Powerful 3D Tool Kit

Extended 3D capabilities for more attractive simulations:

- Import / convert 3D-buildings and 3D-objects from third party VRML.

- Import / convert 3D-models and 3D-charactes from third party 3DS, DirectX or FBX format

- Huge 3D-library with various models, textures and animated human characters (actors)

- Useful 3D tools like world editor, actor designer, light map generator, converters and more...

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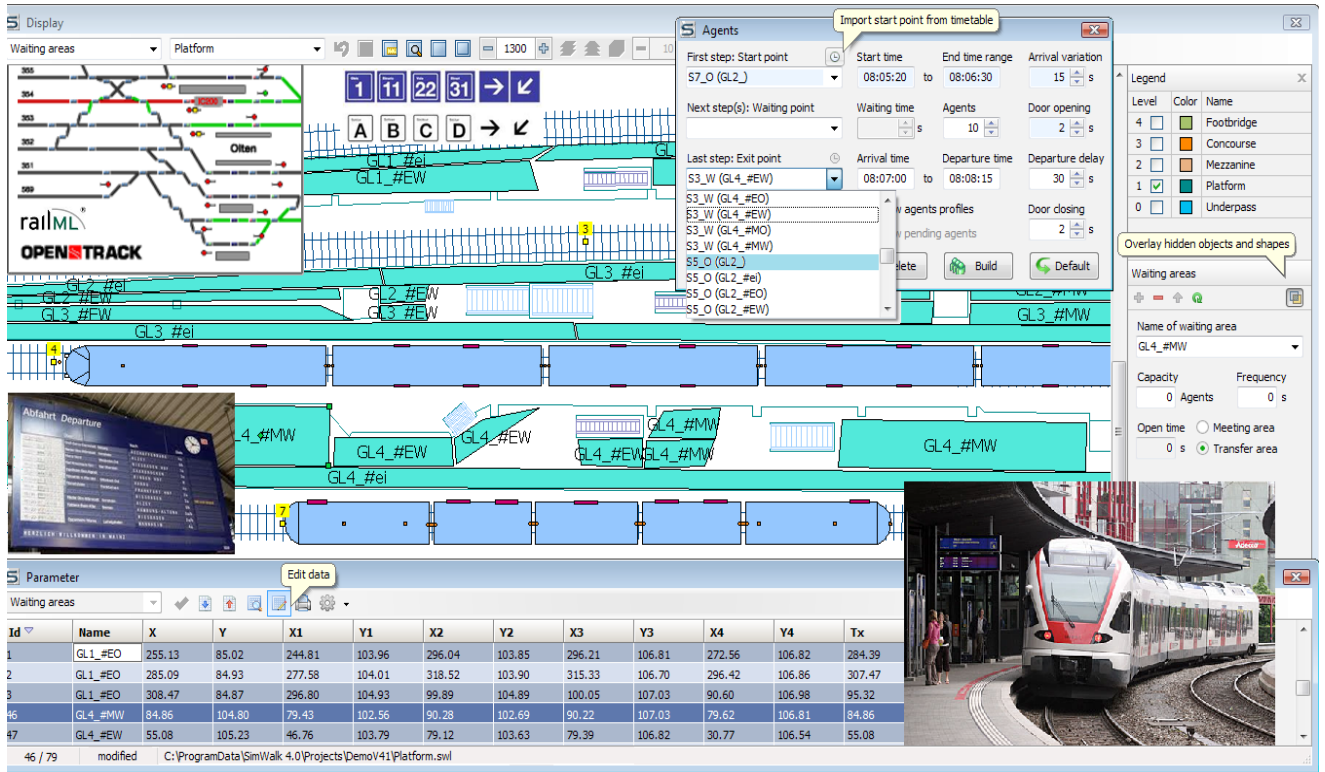
7) Transport Boarding/Waiting Sectors

To improve realistic simulation dynamics, SimWalk 4.0 now supports to subdivide platforms, boarding gates, etc. into several areas where passengers are waiting on their transportation.

This allows to assign a group of passengers either to a sector or to a platform of the desired transport formation. The Agents Plan Builder will then build the plan as specified with randomly distributed agents inside the transfer area or vehicles respectively.

Improved features are:

- Import timetables from OpenTrack or other 3rd party software that supports the RailML data exchange format.

- Overlay hidden object layers for easier and more comfortable placing, sizing, and aligning of areas, tracks, and vehicles.

- New inline editor allows the modification of parameter values inside the table.

Free DEMO Download:
www.simwalk.com/download.php