Optimize passenger dynamics and station design
Modeling and simulating rail and metro station dynamics
What is SimWalk Transport in a nutshell?

- SimWalk Transport is a specialized and integrated microsimulation solution for all passenger movement issues in rail, metro and bus stations.
- Includes all dynamics relevant to public transport facilities (boarding/alighting, transfer, ticketing, shopping etc.).
- Extendable through additional software (Opentrack, Matsim).
Optimize passenger & rolling stock interaction

- Stations have to be efficient and resilient to rising capacity needs and passenger numbers.

- Passenger simulation allows to improve the efficiency of station designs and the operational interaction between rolling stock time schedules and passenger movement.

- Simulation of train type, door numbers / size, formation, stop points etc.
Add traffic modeling and airport/rail link simulation

- SimWalk Transport can be extended with traffic modeling capabilities around stations as well as air / rail link simulation.
- Simulation of multimodal hubs (train, metro, bus, traffic) with all the dynamics involved.
- High performance computing allows to model large scenarios in close to real-time.
Use a comprehensive feature set for your station simulation

- SimWalk Transport integrates all objects and interactions needed for the comprehensive simulation of transport station dynamics.
- Escalators, stairs, lifts, ramps, tracks, platforms etc.
- Smart activity (traveling, shopping) and attractivity (attractive, dangerous) passenger routing
- Group modeling
What can you analyse with Simwalk Transport?

All the analytics you need to improve your station operation:

- Passenger density maps
- Speeds and delay time
- Connection transfer times
- Passenger counts & flow rates
- Boarding / alighting analysis
- Platform analysis
- Passenger route choice
- Levels of service (LOS)
- Object capacities (stairs etc.)
- Queuing time
SimWalk Transport includes a growing rolling stock library to create new or re-use existing vehicle types to be used in simulation.
Rail network and passenger interaction with OpenTrack

- Integration with OpenTrack software allows the combination of rail network, station and passenger simulation.

- Evaluate the interactions of passenger demand, rolling stock dwell time and the wider rail network for a comprehensive understanding of the station dynamics.

- OpenTrack is the leading simulation software for high speed rail, metro, underground and light rail networks.
Normal flows and evacuation behaviour of passengers

- SimWalk Transport delivers modeling of normal flows as well as evacuation and emergency behaviour
- Hazard features allow to simulate fires or explosions and respective passenger behaviours during simulation run time
- With the Event/Action Handler emergency exits and other actions can be controlled
SimWalk Transport 360 – the permanent station model

- SimWalk-360 is a permanent, comprehensive station model which can be accessed anytime by any user
- Integrated with other station applications and management systems
- Based on service level agreements and hosted on the cloud with specified user access
Cloud and high-performance computing capabilities

- 64-bit architecture and parallel processing provide high performance computing on desktop workstations
- Optional cloud and high-performance cluster computing allow scalable simulation calculation
- Permanent model SimWalk-360 based on real-time HPC computing
SimWalk Transport modeling & simulation loop

1. Plan adaptation
2. Data analysis
3. Model building
4. Analysis
4. Simulation
Summary

- Passenger simulation software, deployed worldwide by transport authorities and consultancies
- Comprehensive feature set for the effective and fast simulation and analysis of public transport facilities
- Provision of near real-time simulation through high-performance computing capabilities