

Planning and managing pedestrian flows safely and efficiently

Simulation of pedestrian flows, evacuations and visitor movements

Pedestrian flow simulation helps organisations and planners to design buildings and infrastructure in a safe, efficient and cost-effective manner.

Even in the early planning stages, visitor flows can be analysed, bottlenecks identified and evacuation plans reviewed. This reduces risks, safeguards investments and enables well-informed decisions.



A realistic simulation can be used to accurately replicate both everyday movements and exceptional situations, such as evacuations or large-scale events.

Target groups

- Transport operators
- Industry and manufacturing
- Retail
- Urban planners and local authorities
- Venue planners
- Healthcare, education and public administration

Features and benefits

- Based on real building and layout data for a realistic analysis of individual movement patterns
- Takes into account different groups of people and speeds, thereby providing an objective basis for optimising waiting areas, access points and visitor flow
- Analyses normal operation and emergency scenarios, thereby supporting the safe design of escape and rescue routes, as well as the early identification of bottlenecks
- Supports planning, approval and operation, and provides a robust basis for decision-making regarding investments
- Visualises results clearly in 2D and 3D for clear communication with all project stakeholders
- Enhances safety for visitors and staff through a realistic representation of individual behaviour a reliable basis for investment decisions



Figs. 1 + 2: Example model of an airport (AnyLogic)

Typical applications of people flow simulation

Airports, railway stations and transport facilities

Analysis of passenger flows, security checks, platforms, interchange routes and waiting areas. Optimisation of capacity and walking routes.

Industry and business premises

Simulation of people movements in production buildings, office complexes, canteens, visitor areas and factory premises. Optimisation of walking routes, shift changes and safety concepts.

Event venues and public buildings

Assessment of stadiums, arenas, exhibition halls, theatres and event spaces with regard to visitor comfort and evacuation safety.

Hospitals, educational institutions and public authorities

Analysis of escape routes, evacuation times and people movements during day-to-day operations, taking into account different user groups.

Retail and leisure facilities

Analysis of customer flows in shopping centres, museums and theme parks. Optimisation of shop layouts, visitor guidance and waiting times.

Urban and infrastructure planning

Simulation of people flows in public spaces, on squares, in pedestrian zones and on local transport networks to support urban planners in infrastructure decisions.

Interested?

Simply arrange a free, no-obligation online meeting with us. During the meeting, we'll use example projects to show you what a people flow simulation for your building, facility or event might look like, and introduce you to the appropriate tools.

Whether it's a new build, a refurbishment or a safety assessment, together we'll find the right solution for your needs and questions.

Get in touch now



SimPlan AG was founded in 1992 as a service provider for the simulation of operational processes and, with more than 120 employees, is now one of Germany's leading providers of simulation services.

Why SimPlan?

SimPlan is a cross-industry provider of simulation services and supports companies in analysing and optimising their processes.

Our work is based on objective and independent assessments as well as over 30 years of in-depth experience in logistics and production projects.

Please feel free to contact us

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We continuously develop simulation topics and have powerful resources at our disposal to quickly address your questions.

We focus on close, trusting cooperation with our customers and the development of practical solutions.

As a neutral distributor, we also provide support in the selection and introduction of simulation software and offer appropriate training courses.