## **APPLICATION AREA** CITIES AND URBAN INFRASTRUCTURES CROWD SIMULATION



As the world population is growing, the focus on efficient and safe crowd management is increasing. Analyze crowd behavior with simulation software!

# LET PEOPLE LIVE, WORK AND RECREATE COMFORTABLE

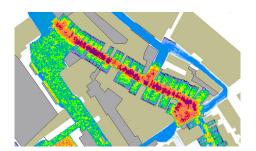
An urban center, a residential area or other infrastructure within a city should be designed in such a way to let people live, work and recreate. This requires an understanding of logistical flows such as pedestrian flows and mobility. Retailers want to know where to locate in the city center in order to have the most visitors, a town planner will plan a park in order to attract as many people as possible and the local authorities want a city to be easy accessible for residents and visitors at all times. And for temporary changes in the infrastructure -such as an event or urban renewal- capacity, mobility and accessibility are themes that always should be taken into account. But how?

## **TECHNICAL KEY FEATURES**

- Simulate up to 100,000 individuals
- Quick & easy modeling
- Applicable to every kind of infrastructure & venue
- Analyze an area up to two square kilometer
- Realistic crowd movements with unique agent properties
- Amazing 3D visualization
- Detailed output results
- Import drawing & models based on industry standards

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#### SIMULATION SOLUTIONS

Simulation software is the solution for answering capacity—, mobility— and accessibility issues within complex infrastructures. With the help of simulation software you can:

- Evaluate the capacity and accessibility of your urban environment:
- Gain insight in the consequences of temporary changes in your infrastructure for the capacity and accessibility;
- Understand the effects of open events, demonstrations, marches, etc. in your city or surroundings;
- Determine commercial attractive locations within your urban environment;
- Present the design of your infrastructure in a 2D and 3D visualization to your stakeholders;
- Plan functionalities such as shopping centers, playgrounds, etc. within your infrastructure, during the design phase, based on the expected pedestrian flows;
- Map the complete infrastructure, pedestrian flows and bottlenecks (risks);
- Develop security plans.

## SAFETY, CAPACITY, URBAN PLANNING AND COMMERCE

Simulating pedestrian flows has gained ground the last few years, partly due to incidents such as Occupy protests in major city centers. In addition it provides answers to complex, logistical issues related to capacity management, urban-planning, commerce and safety & security. Many different parties, such as event organizers, architects, authorities, emergency services, etc. are already using simulation software to support their mission. INCONTROL offers its own simulation platform Pedestrian Dynamics®.

## **EXPERIENCE INCONTROL**

The project experience and knowledge of the INCONTROL developers and engineers are used for the ongoing development of the software. Together with network of INCONTROL, which will be used optimally at all times and made available for every customer, INCONTROL offers state-of-the-art simulation solutions. Examples of projects include: Study for pedestrian flows and capacity analysis for the City of Amsterdam during the abdication of the Queen, April 30, 2013: What is the capacity of the different routes, where can we expect bottlenecks, which actions should be taken to avoid overcrowding? And: Study for the new design of shopping mall Hoog Catharijne: Which routes will take visitors? What are commercially attractive areas?