



AERTEC

➔ **Airport simulations**
Dynamic scenarios to plan
airport development

Let's talk **aeronautics**



→ Airport simulations

Dynamic scenarios to plan airport development

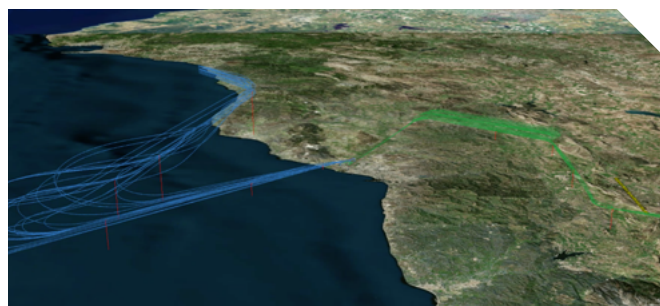
Short/Medium/Long term plan

By varying input parameters, "what-if" scenarios can be easily investigated

Airport life cycle

Founded in 1997, AERTEC is an Aviation & Aerospace firm with more than 600 employees and a substantial global presence. Our company has executed projects in more than 160 international airports on four continents.

Airport simulations is one of our areas of expertise, allowing airport authorities and operators to assess and improve airport capacity by modeling airside aircraft, passengers and cars movements. They can simulate en-route, approach, and ground operations, or combinations of them. These scenarios evaluate, among others, capacity, delay, flight efficiency, safety and controller workload related metrics.



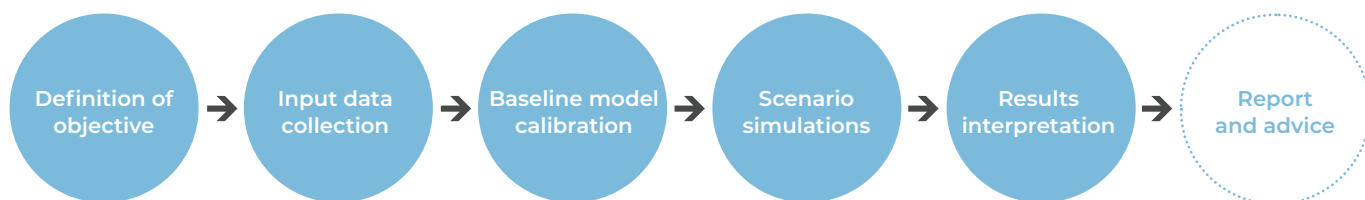
AGP

Malaga Airport / Spain
Airspace and airfield simulation

Methodology



The approach to an airport simulation study is:



Simulation allows to experiment with processes in a virtual setting, reducing time and costs related to physical testing

Areas of application



Air side

- Airspace
- Airfield
- Apron
- Ground fuel burned and emissions



Land side

- Terminal
- Cars
- Access



Benefits



Planning

Concept design

Master Planning

- Improved understanding
- Enhanced planning reliability
- Reduced risk in decision making
- Reduced necessity for real-life test
- Adequate phasing

Operations

New tactical operations

- More efficient operations
- Implementation of tested procedures
- Reduce costly "trial and error" approach
- Optimising the allocation of resources
- Test different scenarios in a short time

Design

Detailed design

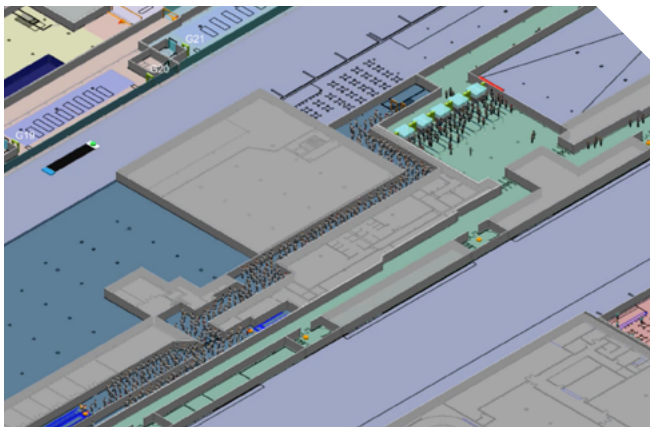
Facility under implementation

Redesign existing facilities

- Optimization of infrastructure capacity
- Balance of overall airfield capacity
- Early detection of planning mistakes
- Identification of bottlenecks
- Increased safety

Who takes advantage of airport simulations?

- Governments
- Airport Operators
- Air Navigation Services Providers
- Technical Services Providers
- Other Stakeholders



Brussels South Charleroi Airport / Belgium
Passengers Simulations

Tools



Although each project and each airport has its specific characteristics, our experience in this type of simulations allow us to work with the following accurate tools:

- **AirTOP** [Airspace/Airfield simulation](#)
- **CAST** [Passengers simulations](#)
- **VISUM / VISSIM** [Cars & Access](#)
- **DELMIA** [Automatic Baggage Handling System / SATE](#)



A quick and efficient way to adjust parameters and re-simulate



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