

LOGISTICS – Optimization and Simulation

Is your Logistics a strategic key of success? Our Optimization and Simulation tools help you to improve! The scope of the Logistics is to have the right thing or person, at the right place, at the right time. Optimize the logistics means to reach that scope at the lowest cost with the established level of risk.

Logistics Optimization

Logistics is a concept that may involve different processes, equipments, time horizon. Optimization require that specific algorithms and models are applied to the specific contexts. Consequently we can generally talking about Logistics



optimization but to understand how, we must go deeper and explore single processes or facilities that are involved to perform the logistics tasks and optimized one or more of these processes. **For example**, we can optimize the single warehouse, or a sorting process inside a distribution center, we can optimize transports, we can find the best position of our transit points and so on. Optimize the logistics, depending the specific context of your process, may involve one ore more "sub-optimization task". If more objectives have to be optimized often happens that to pursue one sub-process objective has a negative impact on others, so it is important that the global optimization project takes care about harmonizing all the sub-objectives so to obtain a global optimization. More techniques and tools can be involved in a Logistics optimization process.

How ACT Solutions can help you to optimize your Logistics?

We have an incremental approach able to drive the optimization process considering the multitude aspects involved: organization, technology, costs, current status, target status etc. Moreover we have the needed Decision Making technologies. Some important questions about Logistics optimization Do you have to deal with strategic choices and important operational in the logistics area? Do you want to cut transportation costs? Reorganizing the fleet of your vehicle and its crew? Reducing the operational cost



of stock? The high number of possible solutions, the complexity of constraints, the interaction between different objectives make it difficult to identify good solutions without the use of

Logistics Simulation

Take a closer look to your future? Logistics Simulation with Arena and SIMIO!

Play the game in the virtual world ensure the success in the real world.

Why ACT Solutions? ACT Solutions boasts significant achievements and collaborations with major partners operating in different sectors. ACT Solutions is a member of the Italian Logistics Association AILOG and of the Italian operations research AIRO.

ACT Solutions is synonymous with:

- high specialization;
- reliability of solutions;
- sensitivity and experience trial for the proper understanding of needs;
- constant support during the operation that is remotely at the headquarters of the client;
- references important of the proposed solutions;
- broad expertise software for better integration of different technologies.

ACT Solutions specializes in decision support systems for the Logistics Management, with a view to full integration for



a reduction in costs as rational a level of service to ensure. Those who work daily in the logistics area faces problems of complex nature.

The choices made in a certain area of logistics

activities involving significant implications on many other business areas (trade-off).

It is far from simple able to assess:

- if the storage capacity of the warehouse is sufficient or excessive;
- if the performance of stock are satisfactory;
- if the parameters for measuring performance are suitable;
- if the activities of picking and sorting are efficient;
- if the number of operators and forklift is adequate;
- if the level of automation of the warehouse is correct;

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specific methodologies. The technology can support operational decisions, including processes in real-time. This opens up **great opportunities** but in order to obtain results in complex areas, as often is that logistically it is necessary to use innovative methods to replace the traditional criteria. Today this is possible at costs absolutely justified by the returns. The solution to your problems? ACT Solutions. Starting from a real system or a project, through the development of simulation models, compare layout and logistics solutions alternatives, verify the criteria for management, evaluate performance and costs.

ACT Solutions offers systems optimization in real-time (gate allocation, processes of picking, sorting processes, activity scheduling, planning transportation, etc. ...) based on the latest optimization techniques (genetic algorithms to fuzzy logic). The model can cover an entire system or its parts:

- warehouse (manual or automatic)
- sorting plant
- logistics center
- port, airport, station or the rail network
- intermodal terminal; a distribution network
- entire Supply Chain
- logistics factory

ACT Solutions offers specialized software products and/or general platforms for the development of systems optimization when it is necessary to resort to highly custom applications.

- if the areas of entry and exit are well sized;
- which would impact on the structure and costs a change in the layout and then flows;
- what would happen after a malfunction in the system;
- what activities more influence on the time of crossing (planning-levy-delivery);
- if the AGV system is optimized and their policies are suitable routing;
- how to reduce congestion during peak hours;
- what are the most appropriate locations for new points of storage;
- as the number of stores affect the level of stocks;
- what is the impact of sorter over logistics system;
- (...)