

HARBOURS & RAILWAYS - Optimization and Simulation

The flows are increasing? How to make the best use of facilities? Have you to decide if design new infrastructure? Do not let your processes suffer the variability. Dimension and govern it in the best way!

Do not miss the opportunity. Contact us.

Harbours & Railways Optimization

Harbours, railways, dry ports and inlands must adapt its structures and procedures not only to an increase in volumes but also to a significant increase in dynamic flow. Speed is the key to success as the ability to manage variability. Our optimization tools such as NET Solver - RTD will help you get the best investment, guarantee service levels and security:

- schedule resources and operations
- organize the activities
- dimensioning in properly way areas and handling systems
- schedule fleets of vessels and means
- optimize loads
- planned shipments

With our tools you will be able to optimize all the activities taking place within a harbour, a road-rail distribution hub or a rail terminal. You can use our tools in the design phase, for example to determine how best the necessary resources or the space needed in real time or, for the daily management so that the system operates under control is optimized and "robust" to disturbances to which the logistics systems in general are subject.



For example, having to make a **series of storage and picking** from a container yard cranes mediate, the total completion time depends on the sequence in which operations are carried out. An excellent sequence implies lower costs of handling. But also the position of stocks affects the cost of the next.

With our optimization tools can be established that position so that statistically the cost of the following is minimized. Consider these "details" in expensive processes involving a significant cost saving and optimization of service levels.

Harbours & Railways Simulation

Analyzing in the virtual world to win in the real world!

ACT Solutions refers primarily to the Company (shipowners, shippers, port service providers, and road-rail



distribution hub) that invest in higher efficiency of the intermodal handling, for better management of storage capacity and greater safety in transport. With a full transformation of

the old maritime and railway stations in the modern service centers and shopping simulation is the ideal tool to support planning and operational decisions. The simulation, combined with modern optimization techniques, you can:

- optimize space for storage services in port
- schedule arrivals at the port to coincide with the availability of loads or land transport
- optimize the routes
- optimize loads
- test emergency procedures in extreme cases

The solutions of ACT Solutions include:

- Logistics Optimization
- Optimization of transport and cargo
- Process engineering
- Simulation as decision support
- The risk management and disaster modeling

Everything working in an environment that faithfully reproduce processes: Arena and SIMIO. With Arena and SIMIO you can simulate all the activities that have taken place within a port, a road-rail distribution hub, a closed rail or a service station. The use of resources, timing, service levels can be simulated to get an overall view and be able to finally decide on the choices and changes to be implemented. In fact, the large number of elements that interact in real-time variability and the presence of random phenomena (eg. Delays) makes it virtually impossible to accurately predict what the behaviour of the system in the face of structural changes, procedural, management. A

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If you have a fleet of ships as you know the schedule constraints to be respected are many. Perform this activity so it is optimized guarantees that resources are best used, and with

minimal cost, whether the risks of disruption are minimized (NAVY Planner).

Determine the scheduling of services but also the price of a service that is optimal (revenue optimization) is another subject that you can deal objectively with our tools and our methods. The use of resources, timing, service levels are essential and both the size of the system being built is the way the system is managed significantly impacting on them. Do not hesitate to contact us.

Why ACT Solutions? We are specialists, we have a sole core-business: optimize your processes through models and algorithms, and we do that thanks to a yearly experience on process.

simulation model allows to represent different phenomena and interactions in a natural way, giving the opportunity to study and predict the effects of decisions or changes in input (eg. Flows) in a reliable manner.

Some examples:

- simulate the loading and unloading trains and ships
- simulate the operation of the storage yards
- simulate a network
- simulate the operations of the wharf or levels of use of the same
- simulate the implementation of procedures before making them operational

Movement of people and goods is often critical. The proper balance between resources is crucial to harmonize levels of service with the costs and levels of security. Arena Simulation is a platform that allows you to simulate the infrastructure of harbours and railways, giving a representation of **what-if analysis**.

Why ACT Solutions? We have many years of experience and always a single core business: supporting the optimization of processes using models and algorithms. We use the most innovative technologies, including Arena, one of the most widely used worldwide in the harbour, rail and logistics. We have significant experience of process as well as technological.