

ACT Operations Research (ACT-OR): optimization via simulation

Built by a cross-engineering background team, ACT-OR's Decision Support Systems empower processes' control with forecasting, simulation and optimization models and algorithms.

BEST Tour – Simulation-based optimization in Transportation

An ACT Operations Research powerful proprietary product, BEST Tour draws on a multi-year math optimization and vertical markets expertise.

Used as engine or as full-featured optimization application, BEST Tour enables its users with delivery pick and drop planning and scheduling along with the optimal allocation of drivers and vehicles. An unique application designed to keep your costs, planning effort while improving service levels and process control at the same time.

BEST Tour allows users to emulate the busiest workdays and see how the following inputs' changes affect the delivery:

- transportation costs
- number of vehicles
- distances
- waiting time
- other operational parameters

Whether your bookings are reviewed, adjusted or cancelled at the very last minute, with BEST Tour you will understand well in advance how many drivers and vehicles you need to pick for your delivery.

BEST Tour enhances optimization-via-simulation capabilities by allowing you to search for optimal solutions within your simulation models. BEST Tour goes beyond what commercial simulation-based optimization solvers can offer.

Optimization via Simulation

BEST Tour empowers decision makers with multiple optimization-via-simulation capabilities.

- Compare alternative daily service responses along with resources' allocation
- Understand how different parameters and resources' combinations affect your business system
- Plan your operations on transportation (stand-alone strategic planning tool)
- Predict how will your operations' workload may unfold in different timespan
- Forecast your peak-and-trough level requests
- Optimize batches of operations

I/O simulation parameters

BEST Tour's users can set the parameters that best suit the most constrained operational needs. Whether your system requires either a few or a large number of parameters, a detailed sample might include:

- Miles Traveled
- Working hours
- Drivers and vehicles hired
- Bookings served
- Expected vs actual time pick and drop (i.e., average, range)

Full route details are provided by the optimized system.

OPT WAREHOUSE - Warehouse process optimization and simulation

ACT Operations Research is proud to open the doors to its latest release designed to optimize space and workforce in your warehouse.

OPT Warehouse positions itself as a best-of-breed process optimization system.

- All-inclusive library of math-models of fast execution
- Advanced adding-value functionalities for picking and inventory management
- Easy integration with WMSs

Some of the benefits include:

- Cutback picking and stocking costs
- Rack up service levels
- Balance resources and workloads
- Improve productivity

Usage model

OPT Warehouse optimization modules empower your WMS with advanced capabilities.

With OPT Warehouse optimization and simulation work together, the new way to live and manage your warehouse.

OPT Sizing

Wasting valuable space is just as easy! When it comes to racks' choice, OPT Sizing helps you picking the right shelves' depth and breadth. Looking at your scheduled in/outbound differently-shaped parcels, OPT Sizing ensures optimal space deployment. OPT Sizing works well with both the most used and the newest simulation packages.

OPT Stock

If you are still eye balling into your warehouse, struggling to find the right spot for the inbound picking, OPT Stock can help! With Opt Stock you won't experience saturation and its recommendations on little reallocations come with full-proof pallets' let-down lists. Automate the stocking process despite a very constrained warehouse (e.g., rack capacity, products characteristics). Search for optimal solutions within your simulation models. OPT Stock works well with both the most used and the newest simulation packages.

OPT Display

What if you were provided with a "black-list" of "bad positioned" items as well as with recommendations on the right steps for their reallocation? OPT Display knows what is badly laying on your shelves! OPT Display provides you with a full-proof pallets' let-down lists amid the most constrained warehouses (products characteristics, modules compatibility, units' weight). OPT Display works well with both the most used and the newest simulation packages.

OPT Picking

Are you looking for a fast picking amid hard constraints? Whilst loading capacity, max weight, volumes and path directions can be among those challenging your picking, OPT Picking shortens the time to pick while exploiting the paths traveled at their fullest. OPT Picking comes up with detailed picking lists and optimized schedules created to serve single or multiple customers' orders at the same time. OPT Picking works well with both the most used and the newest simulation packages.

OPT Cluster

Are you bothered by receiving back ordered goods? Group them (e.g., by destination, dimension, color) before send them out. Whether you are fueling your production process or your sorter workload, batching may help you being productive. OPT Cluster works well with both the most used and the newest simulation packages.

Optimization via Simulation

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