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Systemflow Simulations

Since 1993, Systemflow has provided design verification and optimization services for a variety of industries. Using advanced computer modeling techniques, Systemflow helps clients maximize throughput, improve system flow, and reduce capital and operating expenses.

SERVICES

Systemflow offers consulting services to clients in three key areas: manufacturing and material handling, mining and mineral processing, and transportation and distribution.

We perform analysis for plant/process design evaluation; production scheduling; capital project evaluation; process and operations optimization; troubleshooting; capacity analysis; and process re-engineering.

WHAT IS SIMULATION?

Simulation is the art and science of creating a computer model that mimics the operation of a real-world process or system over time. The model, built with the purpose of experimentation and evaluation, can be used to gain understanding of the system and predict its behavior under a variety of what-if scenarios.

Simulation has become an indispensable problem-solving methodology for the solution of real-world problems. It has been successfully used in areas such as design, planning, analysis, scheduling, and training. Simulation not only allows what-if analysis of systems prior to implementation, but a key benefit is profit optimization for existing systems.

BENEFITS OF SIMULATION

Clients designing a new system, plant, or process, as well as clients proposing changes to an existing system can use simulation to:

- Develop understanding about a system and how it operates
- Visualize and evaluate the system's behavior before it is built or before proposed changes are made.
- Establish system's behavior under multiple "what-if" scenarios.
- Validate design prior to full-scale implementation.

- Explore and evaluate the implications of changes in plant layout, policies, operating procedures, or methods.
- Identify system bottlenecks.
- Demonstrate the effectiveness of new design approaches
- Sell ideas to management or customers
- Optimize profit for the system or plant

SOFTWARE TOOLS

We maintain expertise in the latest computer simulation, analysis, and optimization tools. These include AutoMod, GPSS/H, Proof Animation, ProModel, QUEST, Arena (SIMAN), SLX, Extend, SIMUL8, WITNESS and Taylor ED. We possess the knowledge, experience, and impartial view to recommend the most appropriate tool for the job.



MANUFACTURING AND MATERIAL HANDLING PROJECTS

Systemflow personnel have performed a wide variety of manufacturing and material handling system simulation studies for the automotive, process, food product, and manufacturing industries. Selected project types Systemflow has worked on include:

- Automotive paint shop: strip banks, baking subsystem, and entire shop.
- Building products: manufacturing and transportation facilities.
- Automotive component manufacturing.
- Farm equipment assembly lines.
- Automotive assembly lines: trim, chassis, and final build areas; engine blocks; seat delivery; body build-up area; in-line body decking.
- Food products manufacturing.

MINING AND MINERAL PROCESSING PROJECTS

Projects in this area range from underground and surface mine operation, to crushing, milling, smelting, and refining operations, to stockpiling, shipping and general materials handling.

Selected Systemflow project types in mining and mineral processing include:

- Underground mine design.
- Long-Range development and production planning of underground mines.
- Production, equipment, personnel, and resource scheduling.
- Ore processing: crushing and mill plants operation.
- Ore and waste handling: bulk conveyors, underground passes, hoisting, stockpiling, and trucking.
- Underground mine operation using various mining methods including: vertical retreat, uppers retreat, sublevel retreat, and cut and fill.
- Smelter operation.

DISTRIBUTION AND TRANSPORTATION PROJECTS

Systemflow personnel have completed numerous studies of distribution and transportation facilities. Systems modeled include: picking, handling, palletizing, loading, shipment scheduling operations, air and rail shipping, trucking, and passenger vehicle transportation systems. Selected Systemflow project types include:

- Distribution centers for: food products, meatpacking, consumer goods, shipping, and equipment manufacturing companies.
- High-volume parcel handling for shipping companies.
- Carton handling for consumer goods and food products companies.
- Warehouse operation of food products companies.
- Bus/subway station: street & pedestrian traffic.

CONTACT INFORMATION

If you have a need to assess and improve the performance of an existing or planned system, want to see how your organization can reduce capital and operating costs, or are considering outside help for your ongoing simulation efforts, consider Systemflow Simulations.

If you would like to contact us concerning simulation, or want to find out more about Systemflow Simulations, Inc., please follow one of the contact options given below.

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