
anylogic®
SIMULATION PLATFORM
FOR THE ENTIRE BUSINESS LIFECYCLE

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MULTIPURPOSE SIMULATION SOFTWARE

AnyLogic simulation modeling software is an essential productivity and decision-making tool, which supports all existing modeling methods (system dynamics, discrete event, and agent based modeling) and therefore covers all your company's possible needs in simulation. Industrial engineers, supply chain analysts, HR managers, market research analysts and strategic planners are using AnyLogic to leverage the power of dynamic simulation throughout the entire business lifecycle.

NETWORK ACROSS MULTIPLE DEPARTMENTS

Your business has many simulation requirements and AnyLogic is the only simulation software with the capabilities to serve as an analytical and forecasting tool in multiple departments. AnyLogic can enable your company to gain deeper and more global insight into your business. For example, the ability to link a supply chain model to a market model or to share modeling experience across departments, all to produce better results and increase success on operational, tactical and strategic management levels.

SEAMLESS INTEGRATION

Not only does AnyLogic run on Windows, Mac and Linux, but it can be easily integrated with Excel, other databases, text files, GIS and CAD software. AnyLogic can also be incorporated with your company's existing business execution software, like ERP and CRM, providing a greater competitive advantage. From long term planning to day-to-day operations, AnyLogic is an essential forecasting and optimization tool for your business.

MAKE SENSE OF BIG DATA

AnyLogic's unique agent based modeling features bring your analysis to a new level of accuracy by leveraging your large amounts of data. Information such as consumer behavior, purchase patterns, choice statistics, product usage patterns, food consumption, equipment failures or health related data can be efficiently used to model individual behavior of agents in agent based models for more reliable analytics and to optimize your business strategy.

WHY ANYLOGIC ?

REDUCE DEVELOPMENT COST AND TIME

• Visual development environment significantly speeds up the development process.
• The included object libraries provide the ability to quickly incorporate prebuilt simulation elements in your models.
• Fully object oriented structure provides reusability of parts of models.
• A visual development environment makes it easy to convert from other widely used IDEs to AnyLogic.

DEVELOP MORE MODELS WITH ONE TOOL

• Essential multimethod environment: develop agent based, system dynamics, discrete event, continuous and dynamic system models, in any combination, with one tool.
• AnyLogic supports seamless integration of discrete and continuous simulations.
• The native Java environment offers limitless extensibility of your models with custom Java code, external libraries, and external data sources.
• An extensive statistical distribution function set provides an excellent platform for simulating the uncertainty inherent in all systems.
• A powerful experimental framework, built in support for Monte Carlo simulations, and advanced forms of optimization support a wide variety of simulation approaches.

IMPROVE THE VISUAL IMPACT OF YOUR MODELS

• AnyLogic's simple yet sophisticated 2D and 3D animation functions allow the development of visually rich, interactive simulation environments.
• Automatic applet creation allows users to quickly build simulations that can be broadly disseminated — they can even be placed on a website.

RUN MODELS ANYWHERE

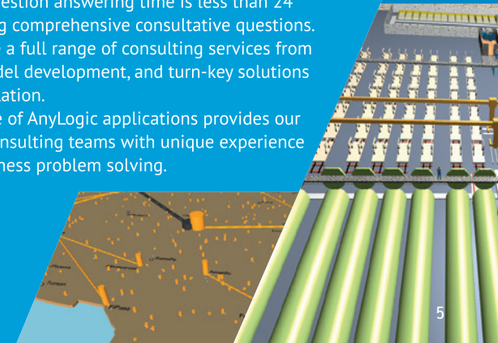
• The native Java environment provides multiplatform support. Both the AnyLogic IDE and models work on Windows, Mac, and Linux.
• You don't need a runtime license — with one click you can generate a Java applet that allows users to run a model anywhere without purchasing a license.
• An AnyLogic model is completely separable from the development environment and can be exported as a stand alone Java application.

INTEGRATE WITH OTHER SOFTWARE

• Models can be easily integrated with any other analytical, business execution, or custom software to become a part of a bigger system.
• AnyLogic can read and write in any databases, from Excel and Access to MS SQL, Oracle, and others, making it easy to operate with big data.
• You can upload CAD drawings and GIS maps for precise marking on a model layout.

EXCELLENT SUPPORT AND CONSULTING SERVICES

• We provide unlimited, detailed support to complex modeling problems.
• Average question answering time is less than 24 hours, including comprehensive consultative questions.
• We provide a full range of consulting services from training to model development, and turn-key solutions based on simulation.
• Wide range of AnyLogic applications provides our support and consulting teams with unique experience in various business problem solving.



MULTIMETHOD SIMULATION SOFTWARE

AnyLogic supports all business modeling methods in place today: DISCRETE EVENT, SYSTEM DYNAMICS, and AGENT BASED modeling. The unique flexibility of the modeling language enables the user to capture the complexity and heterogeneity of business, economic and social systems to any desired level of detail. AnyLogic's graphical interface, tools, and object libraries allow you to quickly model diverse areas such as manufacturing and logistics, business processes, human resources, consumer behavior, healthcare, and many more.

BENEFITS OF USING DIFFERENT MODELING METHODS

Using each modeling method sets its limitations concerning the level of abstraction.

Why let your software restrict you in how you see your system? It may be possible to model actions of autonomous entities via system dynamics, but why introduce this additional abstraction if agent based tools are available? Conversely, why use discrete methods to model continuous variables when SD methods are at hand? And if the environment you are modeling is complex enough, why deliberate on which set of abstractions is closest to the reality when one tool can provide them all?

AnyLogic is an extremely flexible simulation software, which provides you with various ways to develop your model. With AnyLogic, you are never limited by a particular simulation method, and you can always choose the most efficient one or their combination, to address the problem.

AGENT BASED MODELING

AnyLogic provides a visual language which significantly simplifies development of agent based models:

- UML Statecharts are used to define behavior of agents.
- Action charts are used to define algorithms.
- Environment objects help to describe the agent environment and to collect statistics.
- Events are used to describe occasional or time-certain occurrences.

These constructions allow you to describe almost all the behavioral aspects of agents - and you can always write specific Java code if you want to model something special or unanticipated. Agent based models can be seamlessly combined with discrete event and system dynamics models within one model in any way: hierarchically, series hand-off, parallely, etc.

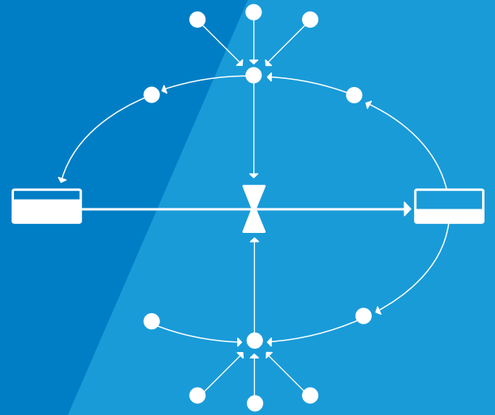
Agents can be used as entities in process-centric flowcharts, or system dynamics' stock & flow diagrams can be used to define agents' behavior. All this can be done with help of graphical editor.

SYSTEM DYNAMICS

AnyLogic completely supports system dynamics' stock & flow diagramming in the same way as a traditional SD tool.
But AnyLogic provides much more functionality:

- In AnyLogic, you can develop custom interactive animations in your model, which can explain to your customers much more than just Stock & Flow diagrams that are only intuitive to developers.
- You can combine your model with others, for example, you can model the market in system dynamics while manufacturing processes and supply chain with agent based and discrete event methods.
- You can import your system dynamics models from VenSim® or iThink®/Stella®.

AnyLogic development environment is based on Eclipse platform. It's modern and easy-to-use when compared with most other simulation modeling tools.



DISCRETE EVENT MODELING

Discrete event or process-centric modeling is fully supported by AnyLogic. Anylogic includes all the tools, which allow you to create any kind of discrete event models – just drug & drop blocks, connect them, and parameterize. AnyLogic 7 includes the new Process Modeling Library, which makes building discrete event models even faster and easier than before, as now you need less blocks to describe the same processes.

AnyLogic provides easy integration of discrete event models with other methods, for example, entities from process-centric models can act as agents in agent based models and vise versa.

The Process Modeling Library also features ability to set independent and intelligent resource behavior, which is crucial for simulating complex systems like hospitals, manufacturing plants, etc.

ANYLOGIC 7. FASTER, SIMPLER MODEL BUILDING WITH IMPROVED CAPABILITIES

DEFINITIVE MULTIMETHOD MODELING ENVIRONMENT

• Entities, resources, and agents are all now the same object.
• Entities can have individual behavior, separate from process-driven.
• Agents can dive into and jump out of the process flowcharts with no coding required.
• System dynamics can be freely used inside and outside entities and agents.

UNIFIED SPACE AND SPACE MARKUP ELEMENTS

• Consolidated 3D space for all kinds of objects: agents, entities, resource units, pedestrians, rail cars, etc.
• People, vehicles, pallets, buildings, trains, equipment can interact in the same 3D space.
• Easily define walls, areas, paths, nodes, etc. with our new set of space markup elements.
• Specific markup shapes are available for conveyors, warehouse storages, rail tracks and switches.
• The new network routing techniques allow for efficient modeling of very large structures, such as distribution centers where every shelf is modeled.

NEW LIBRARY FOR PROCESS MODELING

• Graphically define parameters, internal variables, animation, and statistics of entities.
• Resources can have their own sub-process to prepare for a service and wrap-up afterwards.
• An entity can request several alternative resource sets or ask for a particular resource unit.
• Supports task priorities, interruptions, preemption, failures, breaks, and shifts.
• In addition to traditional "push" entity flow, "pull" flows are also supported, which is particularly useful in manufacturing applications.

VASTLY IMPROVED PEDESTRIAN LIBRARY

• Scale pedestrian models into tens of thousands or higher without impacting model performance with the new high-speed engine.
• Locate pedestrian spaces with ease, using specific markup elements such as turnstiles, queue lines, escalators, stairs, etc.
• Develop pedestrian models in a point and click manner with minimal coding.

ENHANCED SUPPORT FOR AGENT BASED MODELING

• Agents, agent populations, inter-agent links and networks are created with the help of wizards and graphical elements, requiring minimal coding.
• The Agent Population wizard is designed to help you determine agents' settings in just a few clicks.
• Inter-agent links are now defined and visualized using graphical objects.

GENERAL USABILITY IMPROVEMENTS

• Choose probability distributions using a special wizard..
• Drop-down lists are available where typing had previously been required, an option to write expressions remains.
• Enjoy an updated, more spacious, graphical editor window.

Fear not! AnyLogic 6 models are entirely compatible with AnyLogic 7. Continue to compile and run models with enhanced technology and a smooth transition.

ANYLOGIC LIBRARIES

PROCESS MODELING LIBRARY

The completely new Process Modeling Library is a set of tools for discrete event simulation that contains objects you can use to rapidly simulate complex discrete event systems, such as:

- Manufacturing processes with detailed shop floor layout.
- Simple and complex service systems (e.g. banks, airports, hospitals, etc.).
- Business processes with activity based costing.
- Logistics and supply chains.
- Hospitals with sophisticated staff management.

The Process Modeling Library allows you to create flexible models, collect basic and advanced statistics, and effectively visualize the process you are modeling to validate and present your model. The completely renewed functionality allows you to build more complicated models with less effort. The new features include smarter blocks and the ability to set more complex policies for resource management.

PEDESTRIAN DYNAMICS LIBRARY

The AnyLogic Pedestrian Library is made for the simulation of pedestrian flows. It considers the sizes of individual objects, their behavioral rules, their ability to speed up and slow down, their vision range, priorities, and layout objects like walls, obstacles, stairs, etc.
This allows the modeler to gain a much deeper insight into systems like airports, railway and subway stations, shopping malls, stadiums, parking areas, etc.
With the help of this library, modelers can accurately measure and optimize system properties, discover bottlenecks, and plan evacuations.

RAIL YARD LIBRARY

The Rail Yard Library allows you to efficiently model, simulate, and visualize rail yard operations of any complexity and scale. You can also naturally, and easily, combine the rail yard models with other discrete event or agent based models of related transportation, loading and unloading, resource allocation, maintenance, business processes, etc. The Rail Yard Library produces detailed, and yet very high performance simulations, which is important when you use the optimizer to identify the best yard management policies.

FEATURE COMPARISON OF ANYLOGIC EDITIONS

- ANYLOGIC EDUCATIONAL
- ANYLOGIC UNIVERSITY RESEARCHER
- ANYLOGIC ADVANCED
- ANYLOGIC PROFESSIONAL

Operating Systems

Windows, Mac, Linux	● ● ● ●

Model Development Environment

Workspace for Multiple Models	● ● ● ●
Visual Notation for Model Development	● ● ● ●
Model Code Writing Assistance	● ● ● ●
Problem Resolution Assistance	● ● ● ●
Voting for New AnyLogic Features	● ● ● ●
Wizard for Creating New Models	● ● ● ●
Basic Model Debugging	● ● ● ●
Professional Model Debugging	● ●
View on Event Queue	●
Teamwork and Concurrent Version System (CVS and SVN) Integration	●
Geographic Information System (GIS) Integration	● ●
CAD Drawing Import	●
Sharing AnyLogic Licenses with USB Dongle (Windows & Mac)	● ● ●

Modeling Methods

Agent Based, System Dynamics, Discrete Event, Combined	● ● ● ●

Libraries

Process Modeling Library	● ● ● ●
Enterprise Library	● ● ● ●
Pedestrian Library	L* L* ●
Rail Yard Library	● ● ●
Custom Library Development	●
Open Custom Libraries	● ● ● ●

Animation

Business Graphics	● ● ● ●
Basic Controls	● ● ● ●
Professional Controls	●
3D animation	● ● ● ●

Database Connectivity

Basic Components	● ● ● ●
Professional Components	●

Exporting Models

Simulation Applet (Java Applet)	● ● ● ●
Simulation Application	●

Experiment Framework

Simulation, Optimization, Parameter Variation Experiments	● ● ● ●
Compare Runs, Sensitivity Analysis, Calibration, Monte Carlo, Custom Experiment	●

Others

Saving, Restoring and Exporting Simulation Output from Experiment User Interface	●
Saving and Restoring Model Snapshot	●

FOR UNIVERSITIES

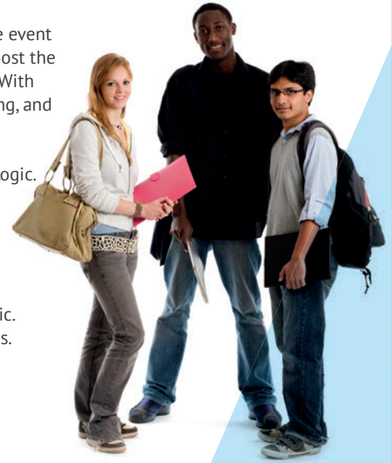
AnyLogic's universal software is used to introduce students to all modeling concepts, including discrete event (process-centric), system dynamics, and agent based approaches. AnyLogic University licenses have almost the full functionality of the commercial licenses and are discounted 70% to 90% from the standard prices. With Java-based AnyLogic, you can replace a boxful of tools and concentrate on teaching simulation modeling, and not the particular eccentricities and menus of multiple applications.

Hundreds of universities all over the world are already running their simulation courses based on AnyLogic.

AnyLogic's Academic Partnership Program is dedicated to supporting professors and researchers who are developing new modeling and simulation projects and courses at their universities.

The Academic Program includes:

- Organization and sponsorship of modeling competitions at universities.
- Valuable offers and benefits for those who share with us their teaching materials based on AnyLogic.
- Academic papers can be published in AnyLogic Conference proceedings and sent to event attendees.
- AnyLogic educational materials, which are available online.
  To download them, visit **www.anylogic.com/academic-partnership**.



ANYLOGIC TRAINING COURSES

The AnyLogic training courses serve two goals. First, we give you a tour through most parts of the AnyLogic modeling language, and second, we teach you how to select the right approach and abstraction level for your project.

We provide two training programs:

- **Fundamentals Training:** This training is both useful for the new users who wish to rapidly overcome the AnyLogic learning curve, and for those who have experience with AnyLogic using just one modeling approach. Our experience shows that typically there are AnyLogic elements modelers are not aware of.
- **In-Depth Training:** This is for experienced users. Here we teach the things that are not covered in the Fundamentals training (working with databases, creating your own library of objects, debugging your models, optimization, calibration, etc.)

We also deliver standard or customized training courses at your preferred location and time. We tailor topics and design courses that help our clients get the most out of our software.

To learn about the upcoming trainings, please visit **www.anylogic.com/training**.

SOME FACTS ABOUT US

• We've been in business for more than 20 years, operating out of three offices in the United States and Europe.
• Our product, AnyLogic, is a worldwide leader in the simulation software market. Our latest major update, AnyLogic 7, will be released in winter 2013.
• Our network of 19 distributors gives us global presence.
• We provide comprehensive and customized training in North America, Europe, Australia, Japan, and China.
• Our technical support team answers most questions in 24 hours.
• Our professional consulting services cover all phases from the initial problem analysis to the development and deployment of complete decision support systems.
• Our customers include more than 600 companies and 1200 universities worldwide.

SOME OF OUR CLIENTS

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