



# STELLA<sup>®</sup>

Systems Thinking for Education and Research

*“Systems Thinking software like STELLA is an increasingly valuable tool for constructing understanding about all kinds of dynamic systems from natural environments to team dynamics to economic markets.”*

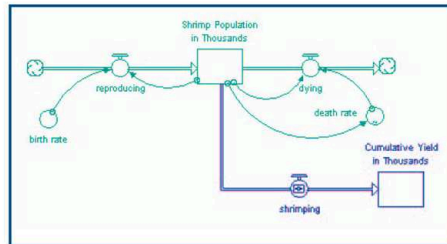
— Peter Senge, Author of *The Fifth Discipline*,  
Founding Chairperson, Society for Organizational Learning

Education and research are most exciting when they move out of the lecture hall and library and provide opportunity to create, experience, and see. STELLA™ offers a practical way to dynamically visualize and communicate how complex systems and ideas really work.

Both first-time and experienced modelers (including teachers, students, and researchers) use STELLA to explore and answer endless questions like:

- How does climate change influence an ecosystem over time?
- Would Hamlet’s fate have changed if he’d killed Claudius earlier?
- How do oil prices respond to shocks in supply and/or demand?
- What will happen when the ozone layer is gone?
- How do basic macroeconomic principles affect income and consumption?

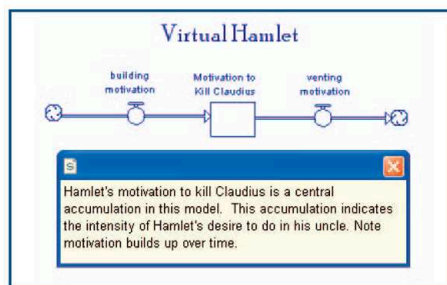
Thousands of educators and researchers have made STELLA the gold standard; using it to study everything from economics to physics, literature to calculus, chemistry to public policy. K-12, college, and research communities have all recognized STELLA’s unique ability to stimulate learning.



*Modeling helps students understand how systems work*

## Shared Learning

You know that your students have learned when they can, in turn, explain. STELLA models allow you to communicate how a system works — what goes in, how the system is impacted, what are the outcomes.



*Storytelling provides an easy way to explain a model*

STELLA supports diverse learning styles with a wide range of storytelling features. Diagrams, charts, and animation help visual learners discover relationships between variables in an equation. Verbal learners might surround visual models with words or attach documents to explain the impact of a new environmental policy.

## Customer List

These are just a few of the education and research organizations using STELLA models to stimulate learning:

- American University
- Columbia University
- Dartmouth College
- Denison University
- Draper Labs
- Duke University
- Environmental Protection Agency
- Hotchkiss School
- Johns Hopkins University
- Juvenile Diabetes Research Foundation
- London Business School
- Los Alamos National Laboratory
- NASA
- Phillips Exeter Academy
- Portland Public Schools
- Purdue University
- Queen’s University
- Sandia National Labs
- Sustainability Institute
- Tokyo University
- University of Amsterdam
- University of Basel
- University of British Columbia
- University of Buenos Aires
- University of Chicago
- University of Colorado
- University of Guam
- University of Hertfordshire
- University of Illinois
- University of Lund
- University of Maryland
- University of Michigan
- University of North Carolina
- University of South Africa
- University of Sydney
- University of Texas
- University of Vermont
- US Dept of Agriculture
- US Fish & Wildlife
- US Forest Service

*“STELLA gives us an enormously powerful and flexible tool for creating environments that allow people to learn by doing.”*

— Dennis Meadows, President, Laboratory for Interactive Learning, Co-author *Limits To Growth: The 30 Year Update*

## The Gold Standard

Easy-to-use, STELLA models provide endless opportunities to explore by asking “what if,” and watching what happens, inspiring the exciting *ah-ha* moments of learning.

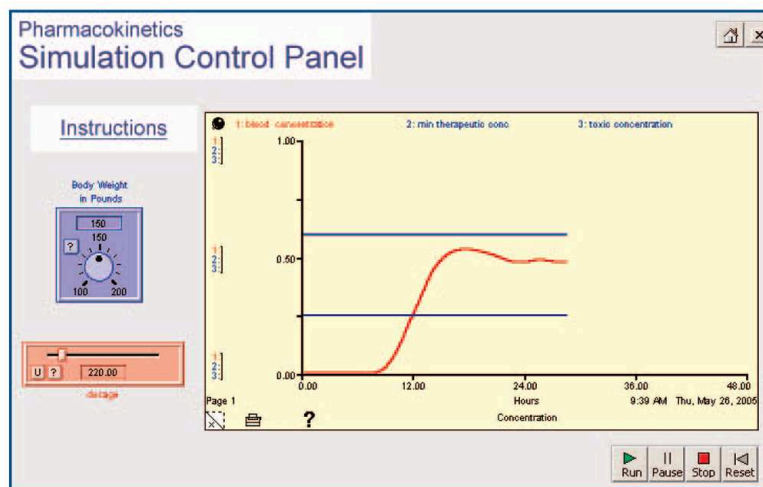
## Key Features

### Mapping and Modeling

- Intuitive icon-based graphical interface simplifies model building
- Stock and Flow diagrams provide insight into how systems work
- Causal Loop diagrams present overall causal relationship
- Enhanced stock types enable discrete and continuous processes with support for queues, ovens, and enhanced conveyors
- Model equations are automatically generated and made accessible beneath the model layer
- Built-in functions facilitate mathematical, statistical, and logical operations
- Arrays simply represent repeated model structure
- Modules support multi-level, hierarchical model structures that can serve as “building blocks” for model construction

### Simulation and Analysis

- Simulations “run” systems over time
- Sensitivity analysis reveals key leverage points and optimal conditions
- Partial model simulations focus analysis on specific sectors or modules of the model
- Results presented as graphs, tables, animations, QuickTime movies, and files
- Dynamic data import/export links to Microsoft™ Excel



*Dashboards bridge the gap between theory and reality*

### Communication

- Flight simulators and dashboards describe model components and facilitate manipulation
- Input devices include knobs, sliders, switches, and buttons
- Output devices highlight outcomes with warning flashers, text, graphs, tables, and reports
- Storytelling supports step-by-step model unveiling
- Causal Loop Diagrams present dominant feedback loops within structure
- Sketchable graphs allow easy comparison of expected results with actual simulations
- Export for NetSim supports publishing and sharing models over the web using isee NetSim™ add-on software
- Save as Runtime option creates full-screen, runtime models
- Multimedia support triggers graphics, movies, sounds, and text messages based on model conditions
- Model security features allow locking or password protection

### Use STELLA to:

- Simulate a system over time
- Jump the gap between theory and the real world
- Enable students to creatively change systems
- Teach students to look for relationships — see the Big Picture
- Clearly communicate system inputs and outputs and demonstrate outcomes

### System Requirements

#### Windows PCs Recommended

233 MHz Pentium  
Microsoft Windows™ 2000/XP/Vista  
(English Version)  
128 MB RAM  
90 MB hard disk space  
QuickTime

#### Macintosh Recommended

120 MHz PowerPC or any Intel-based Mac  
Mac OS 10.2.8 or higher  
128 MB RAM  
90 MB hard disk space  
Quicktime



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**isee systems** (formerly High Performance Systems) is the world leader in Systems Thinking software. Founded in 1985, isee developed STELLA, the first software to bring Systems Thinking to the desktop. In addition to STELLA, which is used primarily by educators and researchers, isee offers *iThink* for business simulation. isee is a privately-held company with substantial global reach in business, education, and government markets.