

VENTANA
systems, inc.

What's New?

#ISDC2024

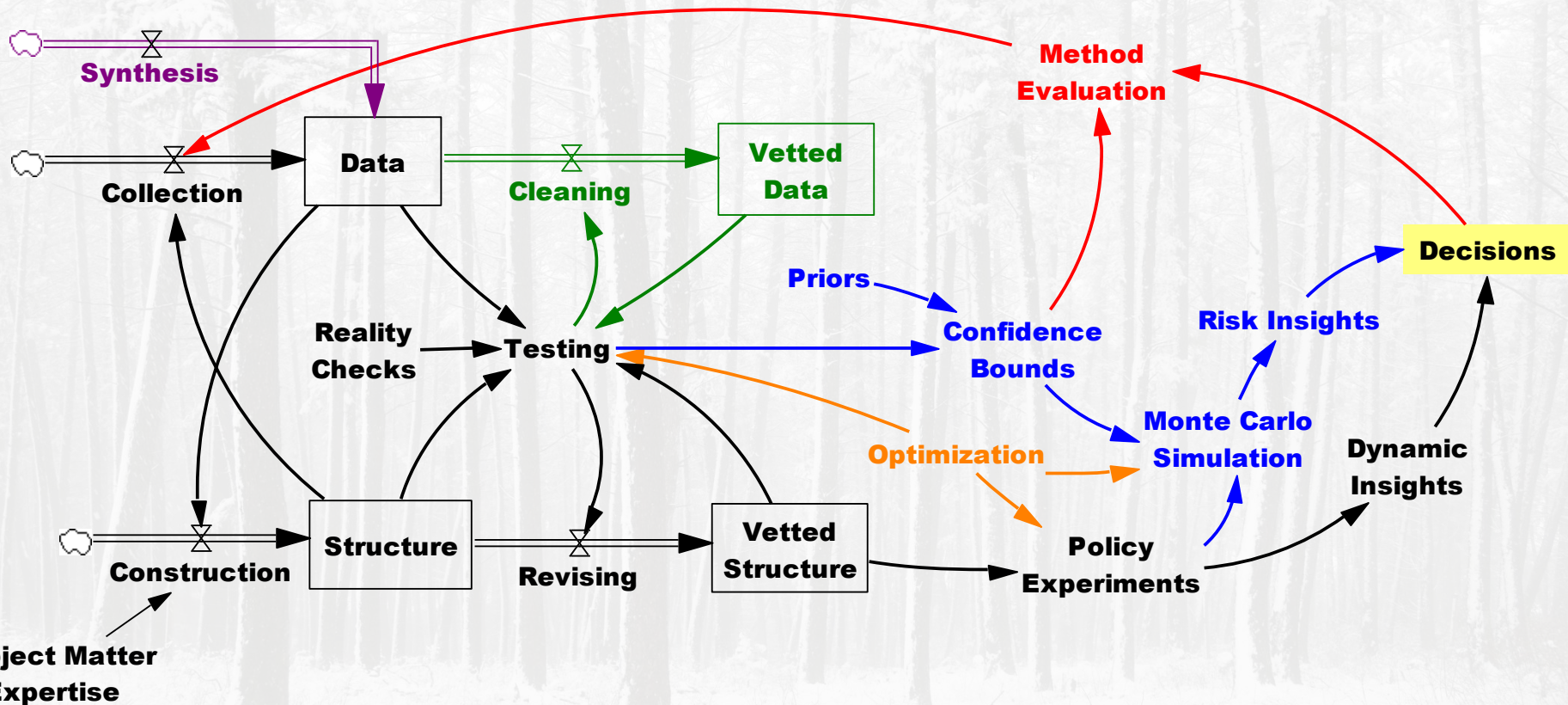
 **VENTURA**

 **VENSIM**



Our mission: Support good decisions by integrating all available information in models that are realistic, calibrated, robust, transparent, and fast.

Dynamic Data Science



2 Visions

- Not: “if we know what will happen, we’ll know what to do”
- Instead:
 - Anticipate the inevitable
 - Control the controllable
 - Hedge the rest
- Beyond: “find the leverage point”
- To: keep the model in the loop, to continuously learn and improve

Applications in ...

- Aerospace
- Finance
- Health & Wellness
- Pharmaceuticals
- Project Management
- Marketing Science
- Education
- Social Networks
- Process Control
- Energy-Economy-Environment
- Mental Health
- Commodities
- Infrastructure
- Urban Redevelopment
- Logistics

We've done it all!



Industry Firsts

- Causal Tracing™
- Reality Check™
- Synthesim™ real time simulation
- Serious data & calibration tools
- Kalman Filtering
- Markov Chain Monte Carlo
- Dynamic structural change
- Automated collections and references
- Natural, relational data structure



Advantages

- Extreme speed
- Flexible diagrams
- Rich array syntax
- Open, readable file formats
- Huge installed base
- Scripting language
- Rich data I/O options
- Powerful algorithms
- DLL, DDE and server APIs
- Large model support

What's New in v10?

- Sensitivity2All
- Parallel multicore execution
- More graphics upgrades
- Enhanced Stability
- v9.4.x
 - Run Config Manager
 - Action Recorder



Road Map

- A few more graphics upgrades (new charts, equation editor)
- Interface elements (checkboxes, buttons, subscript selector, etc.)
- Web interface template and Forio integration
- Pervasive uncertainty
- Sensitivity2All extensions
- Bayesian SD (easier prior specification, MCMC upgrades)
- What do you want?

VENTITY

VENTITY helps teams collaborate to build elegant models with model-data separation, modularity, dynamic creation of structure, sparse matrix relationships, and intelligent agents.

VENTITY Multilevel problems

- Competitive dynamics, with new firms or products introduced midway through a simulation
- Payer/provider ecosystem, with patient migration and churn
- Doctor and patient behavior, with influence propagating on social networks or spatial grids
- Project model, with task prerequisite matrix loaded from data
- Supply chain with arbitrary organization
- Climate integrated assessment with physical and economic sectors delegated to different teams

VENTITY Flexible aggregation

- Some problems *require* detail (can't aggregate in principle)
- ...But data availability may limit what is practical
- Sometimes detail is *easier*
 - Hard to decide a priori what aggregation is appropriate)
 - Too many dimensions make it hard to draw a stock-flow diagram
- Exploit Big Data and individual event statistics
- Show decision makers the granularity they live with (firms, brands, segments, regions, ...)
- Simplify stocks and flows *after* you learn about the system



What's new in v5?

- Model Maps
- GIS, visualizer improvements
- v4.8-4.9
 - Improved performance
 - New random distributions
 - Documentation upgrades
 - Embedded system enhancements (contact us for API)

VENTITY

Road Map

- Model map
 - Coloring improvements
 - Better navigation
 - Smarter layout
- GIS & 3D visualizer upgrades
- Algorithm upgrades
 - Pervasive sensitivity
 - Optimization, MCMC
- Interface control upgrades
- What do you want?