**What is N-ABLE?**

N-ABLE is an in-development, high-fidelity, economic-consequence management tool designed to model the microeconomic impacts of infrastructure usage, disruption, and loss mitigation.

Economic vulnerabilities determined by high-level tools such as macroeconomic analysis often do not provide the microeconomic detail necessary to understand the mechanics of how economic firms and households use infrastructure and are affected by infrastructure disruptions, and (2) to estimate the total microeconomic and macroeconomic impacts of potential new industry-government infrastructure policies.

N-ABLE’s modular microeconomic structure allows for detailed analyses of complex economic processes, ranging from simple markets to entire economic regions.

**Agent Architecture**

N-ABLE microeconomic agents have internal cellular structure that allows for detailed modeling of economic firms and households and in particular their usage of electric power, telecommunications, and transportation infrastructure.

**User Interface**

The User Interface provides the means for assembling, conducting, and analyzing the results of parameterized and experimental simulations.

**Simulation Architecture**

Modular simulation architecture based on MPI, Web Services, and server-client technologies allows for combining heterogeneous economic/infrastructure simulations and algorithms into one 'virtual' simulation.

**N-ABLE Collaborative Development Team**

- **N-ABLE Development Lead** Mark Ehlen
- **User Interface Development** Drew Bowker, Mark Bastian, Mike Procopio
- **Software Development Lead** Eric Eidson
- **Agent/Simulation Architecture** Dianne Barton, John Britanik, Dave Schlenk, Andy Scholand
- **Analysis** Natasha Slepoy
- **External collaboration:** Argonne National Laboratory, National Imagery and Mapping Agency, Lucent Technologies, Policy Analysis Corporation, University of Washington

**Infrastructures/sectors in N-ABLE development**

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**Input 1**

- Inventory
- Labor
- Capital equipment

**Input 2**

- Communications
- Electric Power
- Transportation

**Output 1**

- Buyer
- Production
- Accountant
- CEO

**Output 2**

- Sellers