

# VASA (Visual Analytics for Security Applications)

# PRODUCT

## What VASA Does

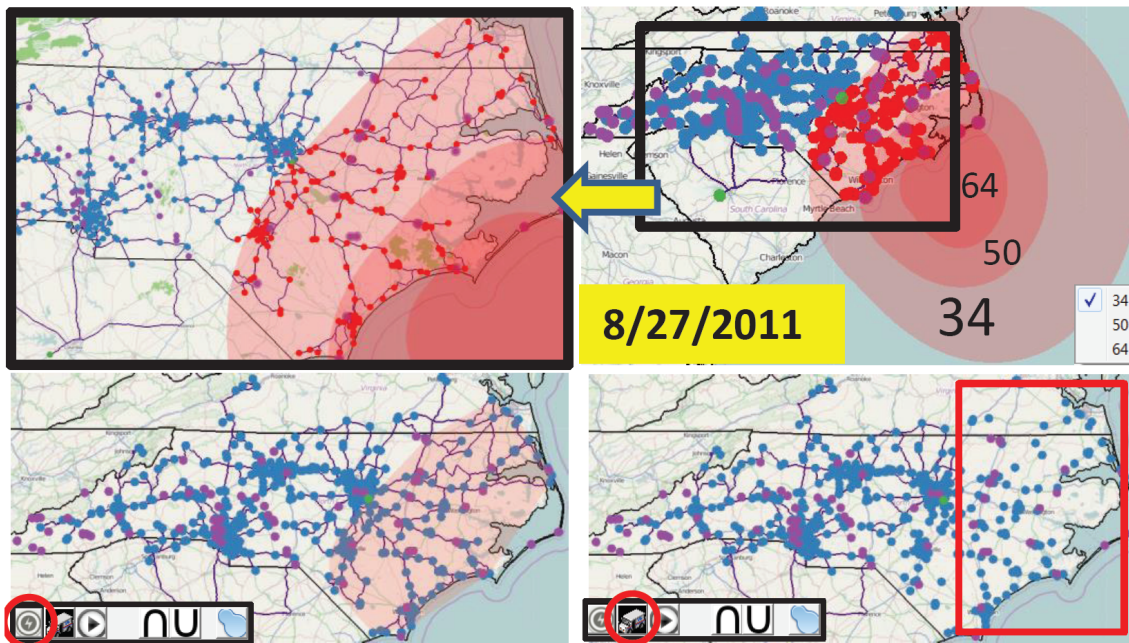
VASA, which stands for Visual Analytics for Security Applications, is a visual analytics platform for simulating the impact of societal threats such as weather, food contamination and traffic on critical infrastructure. It consists of a desktop application, a component model and a suite of distributed simulation components.

## Why it is Useful

Both civic and business analysts often struggle to estimate the impact of an event, forecast damage and discover optimal solutions, because they lack complete sets of data, reliable simulation models and existing environments for decision-making.

VASA is a visual analytics system currently in development that provides this environment for analysts and decision-makers, and it provides a model for investigating a disaster-stressed, regional smart grid infrastructure. VASA also can investigate weak points and cascading effects due to failures in an overall infrastructure including electrical, water, transportation, food distribution and others.

Additionally, it provides a web service for onsite managers to access the results of simulations. This offers the unique capability to determine what will happen, when and where, and who and what infrastructures will be affected. Immediate, appropriate action can be taken, and analysts can evaluate the risk vs. return of different alternatives.



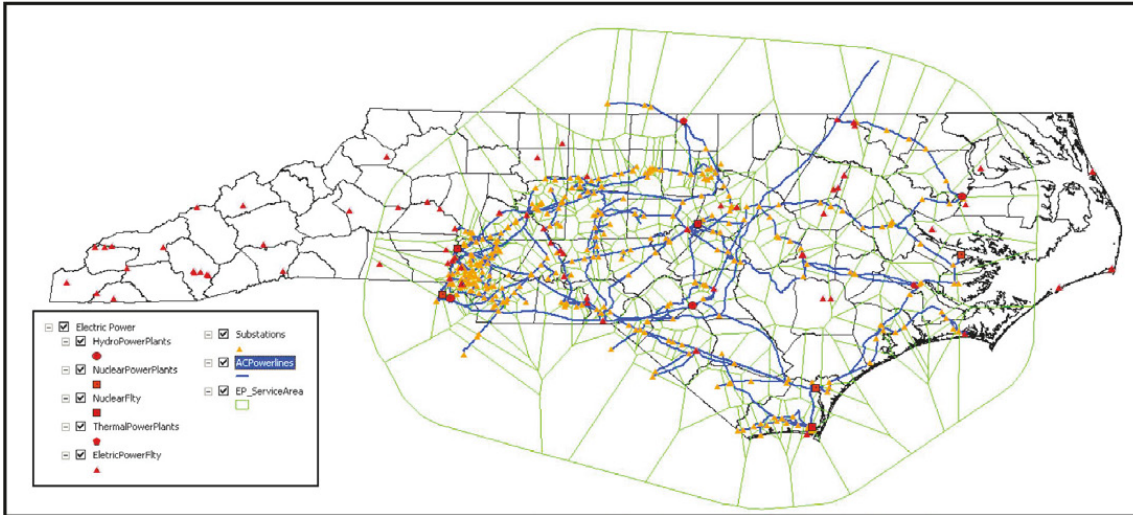
● :Intact ● :Disabled ● :Power Generation Unit — :Delivery routes

▲ Visualization of stores in North Carolina damaged by Hurricane Irene (August 2011).

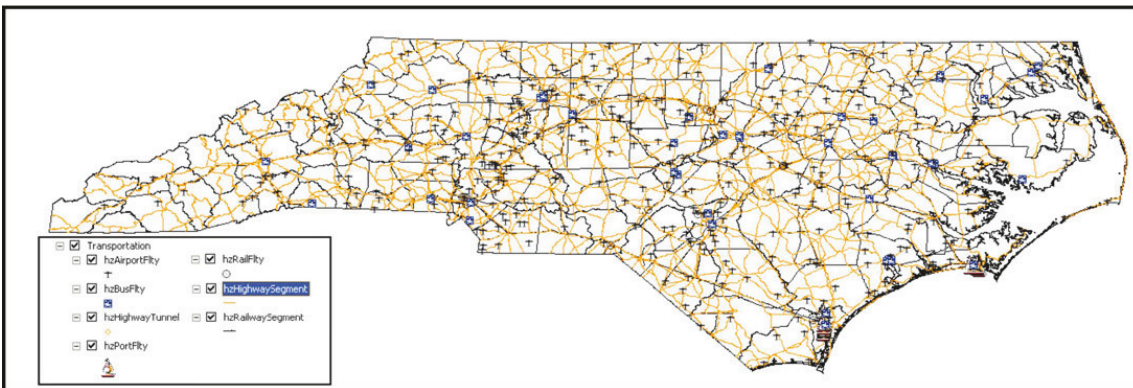
## Layers of Data

VASA juxtaposes various data to provide an accurate evaluation and context of the scenario. The layers are:

- Infrastructure geolocations
- Distribution routes
- Economic and business models
- Weather event data



▲ Power transmission grid for simulation.



▲ Transportation network for simulation.

## Contact Us

Want to find out how VACCINE's research can help your organization? Email [vaccine@purdue.edu](mailto:vaccine@purdue.edu) or visit [www.visualanalytics-CCI.org](http://www.visualanalytics-CCI.org).

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