



# Battelle Delivers Reliable, User-Friendly Assessments for Gov't Sector Clients



Battelle Memorial Institute, a research and development organization with the mission of advancing science and technology to deliver major societal benefits provides critical data assessments for government sector clients via desktop & web apps that they built using [Infragistics Ultimate](#).

The Columbus, Ohio, organization's CBRNE (chemical, biological, radiological, nuclear and explosive) Defense unit's hazard modeling operation strives to provide quick access to accurate data to those clients through web-based and desktop applications. Easy interpretation of the rich data in these reports is critical to decision making. Custom software applications like these rely on the WPF and Java Script grids and charts in Infragistics Ultimate to make it easier for the teams building these reports to deliver complex information in an instantly useable format.

"The focus in our group is on risk assessments for our government sector clients. We analyze and help predict the likelihood of a CBRNE event scenario, the potential impact of that event, and help our clients prioritize their funding allocations and asset usage," said Patrick Wilson, Hazard Modeling Manager for Battelle.

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## Who is Battelle

Founded in 1929, Battelle is the largest non-profit research and development organization in the world. The company competes in contract research and development, explores emerging areas of science, develops and commercializes technology, and manages national laboratories for the Department of Energy. The organization earned nearly \$4.8 billion in 2016, generating the vast majority of its revenue from civilian agencies and the Department of Defense.

The organization also differentiates itself by contributing a significant portion of its profits to science, technology, engineering, and math (STEM) education, Wilson said. This is routine for the organization, as dedicated in the will of Gordon Battelle, the company's founder.

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# Working with the Government

To accomplish its CBRNE defense hazard modeling goals, Battelle needed to deliver thorough, informative reports in models that agencies could reliably turn to for the latest information. The organization required a software solution that could not only support processing the large datasets quickly, but also one its developers could quickly and easily adapt to build credible models of various scenarios. In short, Battelle needed to upgrade its user interface to better surface its data.

The solution itself is the report output as well as applications for the user to interact with the models. There are two major deliverables. One is the assessment and final report and the second is the set of applications that allow the users to interact with the data and the models.

Battelle delivers a report every several years as directed by Presidential directive in the form of a PDF or Word document. However, new applications are typically delivered every several months.

An example of these applications are the two formats Wilson's hazard modeling group delivers. The first is a desktop Windows Presentation Foundation (WPF) application that lets analysts interact with "consequence models" so they can change the data inputs and look at results of the models. The JavaScript/HTML web-based application enables clients to view and dissect the data and then slice it in multiple ways.

Wilson manages a team of 20 people tasked with providing models to help the government strategize, prioritize spending and make informed decisions about where to locate resources. . The team uses two components of Infragistics Ultimate: [Ultimate UI for WPF](#) and for their web-based applications, [Ignite UI](#) for JavaScript/HTML5 and ASP.NET MVC, a complete library of modern web controls and tools that enables developers to build high-performing modern web applications quickly and easily for any device – desktop, tablet and phone – with the most popular modern web frameworks. Infragistics Ultimate is a complete toolkit that helps developers write fast and run fast with more than 100 UI controls and productivity tools.

"We picked the web interface because our client isn't the only one to interact with the solution; there are other people and government agencies interacting with it as well," Wilson said. "Building our app on the web allows us to securely provide access to those who need to interact with it without us having to send out the application to them individually. It lets them log in, view the data, and parse the data to make better decisions more quickly."

"There are billions of scenarios, each of which has 1,000 different potential results, and the app needs to be able to run this data in near real-time to provide a good representation and distribution of the potential outcomes," Wilson said.

The group's deliverables are large reports to the agencies that eventually go to the White House. They also do tailored assessments, smaller reports and sensitivity studies for other agencies such as the Food and Drug Administration, the U.S. Department of Agriculture and the Environmental Protection Agency.

These reports for other agencies contain the same information, just tailored to focus on the mission of the target agency, Wilson said.

"We can tailor results to them specifically," he said. "If it's FDA or USDA we can look at our food results and show them that. So, we can tailor the results to the specific government agency."

"We wanted to make it easier to access the data and interact with it. The applications need to provide end users seamless access as part of their daily schedule, no matter where they are. The ability to let clients play with the models gives them confidence that these models are doing what they intended to do."

Patrick Wilson – CBRNE Defense Hazard Modeling Mgr., Battelle

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## The Solution

Battelle used to run its models on supercomputers, but the models had no user interface on them. In 2012, the company decided to put a UI on the models and began an extensive search for the best way to accomplish that.

With the help of Infragistics Ultimate UI toolkit, Battelle has created its assessments via a software product that calculates a potential scenario. It takes the variables like how another agency would need to react, to produce that assessment Wilson said.

"We help our clients sort of parse all these results," he noted, explaining that the client can plug their own data into the models to ascertain how needs change with different input. "They should be looking at the data so they can prioritize these events or scenarios to mitigate an issue," he said.

Indeed, "In the big picture, the overall assessments help the government prioritize not only their resources, but other resources as to where to best spend their money," Wilson said of how the solution helps the agency better perform its mission. "And the applications help agencies better plan for more specific events."

Moreover, Wilson said the new software enables Battelle to handle large datasets easier.

"We ended up looking at over a billion scenarios that make up the sort of information that our clients need," he said. "We needed something that could handle those large datasets."

Previously, Battelle would generate 1,000-page reports each time their clients needed an assessment and clients could not interact with the models or the data. Now the company delivers interactive models.

“People want things in their hands, they want to be able to interact with this; they don’t want to it to necessarily be a black box,” Wilson said. “We wanted to make it easier to access the data and interact with it. The applications need to provide end users seamless access as part of their daily schedule, no matter where they are. The ability to let clients play with the models gives them confidence that these models are doing what they intended to do.”

“We get great customer feedback on the solution,” Wilson said. “It’s caught fire with our clients. They are pushing to get more from us. I think that soon all of our apps will be web-based. We get a lot of good, positive interactions from our client and other agencies who take advantage of this application.”

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## Get Your Success Story Started

To start your own success story with [Ignite UI](#), check out the how-to guides, video tutorials, and sample code. Learn more about how Ignite UI enables developers to build high-performing modern web applications quickly and easily on every device. Then try Ignite UI along with Ultimate UI for WPF and the full suite of Infragistics developer products available for a [free 30-day trial as part of Infragistics Ultimate](#) to see the difference it can make for your business.

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## About Infragistics

Infragistics is a worldwide leader in providing tools and solutions to accelerate application design and development, insights and collaboration for any organization. More than two million developers use Infragistics enterprise-ready UX and UI toolkits to rapidly prototype and build high-performing applications for the Cloud, Web, Windows, iOS and Android devices. Infragistics Enterprise Mobility solutions ReportPlus and SharePlus, give business users the latest advancements in self-service business intelligence and collaboration software. Additionally, Infragistics offers expert UX Services and award-winning support.