



2019

ALL HAZARDS CONSORTIUM

The Operational Results & Impacts of the SISE

1. The SISE Solutions

The SISE's solutions and Regional Common Operating Picture (RCOP) are currently available and have been used in every major hurricane and many large regional incidents in the eastern United States since 2016.

The initial target audience for the SISE was electric sector utilities and their contractors along with multiple state emergency management agencies.

Today the SISE's audience has grown to a national audience of government agencies, industry, trade associations, academia, and other non-governmental organizations.



2. Access to SISE

Access to the SISE's public version of the Regional Common Operating Picture dashboard is open to all users anywhere in the US at: <https://frwg.geocollaborate.com/dashboard/>

Access to the SISE Appstore which houses all of the products produced from the SISE working groups, use case committees, approved 3rd part solutions providers, and partners is provided via an online vetting & application process.

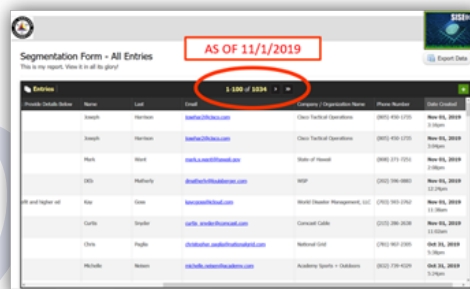
The SISE Appstore is accessible via a free registration process accessible online at <https://www.siseusa.org>.



3. Current Vetted SISE Users

SISE users are vetted and segmented into categories and subcategories that allow data providers to know who is looking at their information, for what purpose, for how long, etc...

There are currently 1,000+ registered users of the SISE nationwide. They come from all states and sectors in the U.S.



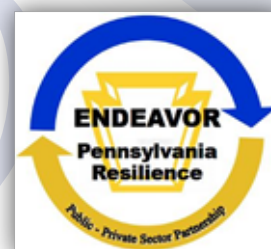
Name	Last	Company / Organization Name
Stanley	BRICK	State House Newsroom/Statewide News
Robert	Clyde	State House Newsroom/Statewide News
Andrew	Brooks	Dominion Energy
Jennifer	Brooks	Illinois Emergency Management Agency
TJ	Brooks	Illinois Emergency Management Agency
John	Brookbauer	NSA
Joe	Brune	NVC/CEM
Kandall	Bruton	TR
Thomas	Carroll	Shelburne Whimsy B&B & Green PA
Michelle	Burnett	CVS Health
Stephan	Byrne	County of Rockland
Patrick	Byrne	NYSDOM
John	Cagan	ACCUSAFE LLC
James	Carlin	Illinois Emergency Management Agency
Chris	Callahan	Optima by E3
Patrick	Canale	EMAC
Robert	Campbell	Oregon Department of Corrections
Richard	Carroll	EMAC
Valerie	Carry	Department of Transportation
James	Carroll	Mid State Police Spec Ops
Keith	Carman	Wisconsin State Highway Administration
Stephen	Carney	ACS Systems Inc.
James	Carlin	Illinois EHS
Kimberly	Carly	Holman Emergencies
Edie	Castillo	Illinois Emergency Management Agency
Jorge	Castillo	Maryland Emergency Management Agency
Julie	Castro	DNCE
Stephen	Cauffman	OH/USA
Robert	Chase	Allegheny County Sheriff's Office
Joseph	Cheska	United States Coast Guard Auxiliary
Alan	Chozika	EMAC
Eric	Christensen	EMAC
Allen	Chung	EMAC
James	Clark	Department of Energy
Demetri	Clark	Duke Energy
Tracy	Clark	Maryland State Highway Administration
Kari	Clematis	Next Energy
Jan	Colby	Liberty Utilities
Richard	Colby	Allegheny Power Company

4. Regional and National Impacts

Impacts from the SISE initiative occurred in multiple categories: Policy, Operations, Partnerships, Technology, Outreach & Communications, Sensitive Information Sharing, and Sustainment.

Policy/Process Impacts

- These SISE projects have created a national integrated planning process that is trusted by the private sector and can be used in any state, region, or sector to focus on a specific problem and drive out possible solutions. The SISE's enabling framework provided a safe environment for public and private stakeholders to organize workgroups and committees under the SISE's legal framework that provided protection from non-operational information requests, media, etc... This created a trusted planning community that worked together year-round to solve problems that involved multiple states and industries; conduct/test/evaluate federal and private-sector research; and respond to disasters more effectively. This reduced operational delays expedite restoration and increases public trust.
- The SISE projects and partnerships led to the development of a new data reliability standard developed in partnership with the SISE, NASA and ESIP (Earth Science Information Partnership) called the Operational Readiness Level (e.g. ORL). The ORL standard increases decision maker confidence in GIS data sets. This standard solves a major problem for decision-makers: what data they should trust and what data is not as trusted. Acceptance of the standard is growing and will allow data providers to improve their data reliability and create more confidence in the data for decision-makers in government and industry. Based on initial feedback, the ORLs have a large, cross-cutting benefit and solve a standard problem that the GIS professionals and operational decision-makers have been facing for a long time.
- The SISE developed a new state-focused, private sector operated BEOC (Business Emergency Operations Center) model in Pennsylvania, referred to as the Endeavor Working Group. This model is operated by the private sector; is integrated into the state emergency operations center, is designed to survive government elections & budget cuts; works with the SISE on use cases that are relevant to that state; and leverages the SISE and its regional working groups, products, people and expertise.
- Several new SISE agreements were developed to be used with SISE's data providers/users and partners which outlined terms and conditions for the providing and exchange of data sets within the SISE.



Operations Impacts

- The SISE private sector operated RCOP (Regional Common Operating Picture, a.k.a. DailyDashboard) has already had national impacts. This dashboard was developed to address several use cases in the electric sector. It is openly accessible to any user across any state or any sector in the United States. It is one of the few, if not the only, platforms operated by the private sector that allows the private sector to coordinate more effectively with multiple states and federal agencies during a regional multi-state disaster. This has large operational impacts on business continuity, supply chain recovery, restoration, and overall infrastructure resilience.



- It virtually eliminated power sector delays across the US during Hurricane Maria response.*
- It saved thousands of private-sector man-hours searching to find validated disaster documentation*
- It reduced confusion, wasted trips, storms costs, and improved operational coordination w/ multiple states*
- It Uses the GeoCollaborate/ESRI technology, now installed in the DHS NICC*



- Many of the products that have been produced from SISE Use Case Committees had a dramatic impact operationally. In one case, the **US/ Canadian Border Crossing Guide**, a product of the SISE was able to reduce utility delays for 90 utility vehicles at the Canadian border headed to Pennsylvania from eight hours down to just a few minutes. This represented \$500,000 in delay costs for just one company... for one storm. Pennsylvania Emergency Management is now working with the SISE to develop a more efficient policy (instead of issuing state emergency declarations) for the state government to use when US utilities need Canadian utilities and contractors support (e.g. during winter storms, Maria, Harvey, IRMA, etc...)



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- The SISE projects refined the process and partnerships for centralizing government waivers and emergency declarations into a single place within the SISE using the **STORM Central webpage**. This website had national impacts across multiple sectors including electric, fuel, food, communications, and transportation. The time wasted in man-hours by the private sector trying to find validated government emergency declaration and waiver documents is estimated to be in the millions of dollars per year. Working with multiple states and federal agencies, the STORM Central website uses a trusted crowdsourcing approach with states and reduces operational delays in the private sector. This shortens response cycles by increasing resource movements, increasing compliance and reduces public/private finger-pointing after the storm.
- The SISE projects led to the creation of a new SISE Sub-Committee that organized the state Private Sector Liaison representatives in FL, NC, VA, MD, DC, and PA. This group is working with each other across state and regional lines in operational ways not done before. This committee gives the SISE's private sector stakeholders direct connection to state EOC's for faster regional information sharing and problem-solving. This committee is now working to standardize their WebEOC systems to match NC's system and connect them to form a WebEOC/ESRI/SISE/DHS NICC network in order to plan and respond with the private sector more effectively. This reduces risks and improves operational coordination and critical infrastructure resilience.



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Partnership Impacts

- A new SISE partnership was formed with the US DOT/Federal Motor Carrier Safety Administration to support expediting regional waivers and declarations. Additionally, this partnership produced training and an alerting service for a FMCSA regional routing hotline service that helps private sector with turn-by-turn directions in flooded areas. It located open roads faster with data aggregation technology during Harvey, Irma, Maris, Florence and other regional disasters. For details visit: <https://www.ahcusa.org/routing-hotline-service.html>
- A new SISE partnership was formed in 2019 with the American Transportation Research Institute (ATRI) to produce new information products that support commercial movements of resources using the RCOP. This capability will provide live commercial truck movement data to help logistics and supply chain managers know where roads are open in near-real-time.
- Another new SISE partnership was formed in 2019 with the Food Marketing Institute (FMI) to leverage existing datasets, the SISE tools, and to form food sector use case committees in the future to begin addressing specific food sector and supply chain resilience problems.
- The Petroleum Marketers Association of America (PMAA) also formed a partnership with the SISE in 2019 to leverage the SISE tools and several other apps to address fuel/petroleum problems they face during a regional and local disaster. Reducing their operational risks is a major issue for PMAA and the SISE will provide the operational connection to states that they need to address many of their key issues.
- The Edison Electric Institute (EEI) has been a long-standing partner of the AHC and a major user and developer of the SISE tools. They are working with the AHC now to promote the long-term SISE sustainment efforts already underway. Going forward, EEI's ESCC (Electric Sector Coordinating Council) will be working on a Cybersecurity Use Case with the SISE Stat Liaison Committee to enhance communication and operational coordination with state following a cyber-attack on the election systems and the power grid.
- The SISE also developed a partnership with representatives from the White House's Office of Science and Technology Policy (OSTP) which provide visibility into technology transition into the private sector. The OSTP also provided introductions into supporting federal agencies, one of which led to the SISE partnership with US DOT/FMCSA. The OSTP provide valuable guidance to the SISE in several use cases and served as a link to the National Science Foundation and possible future partnerships



SISE Partners and Stakeholders

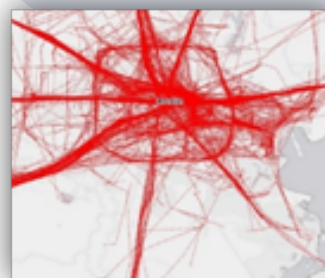
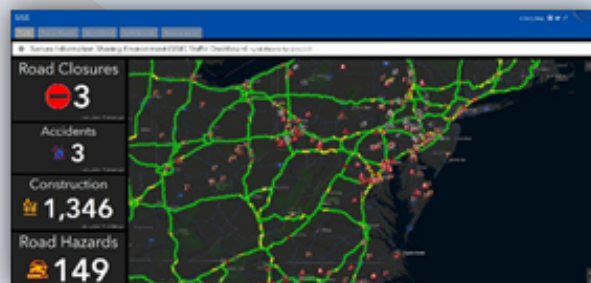
Below is a list of the SISE's partners and stakeholders who participated directly and indirectly with the development of the SISE, its use cases, and its solutions since 2016:

National Rural Electric Cooperatives Association (NRECA)	Duke Energy	Verizon Operations
American Public Power Association (APPA)	American Electric Power	Pacific Gas & Electric
Electric Power Research Institute (EPRI)	ComEdison – Exelon (Chicago)	Southern California Edison
National Insurance Crime Bureau (NICB)	Florida Power & Light	AES Corporation
NOAA	First Energy	Asplundh
NASA	Central Hudson Gas & Electric Corporation	DHS CISA National Risk Management Center
ESIP Federation (Earth Science Information Partners)	Louisville Gas & Electric	DHS Science and Technology
Electric Sector Coordinating Council (ESCC)	Westar Energy	DHS National Infrastructure Coordinating Center
National Emergency Managers Association (NEMA)	ONCOR energy	Association of Edison Illuminating Companies (AEIC)
Golden Triangle District	CenterPoint Energy	Edison Electric Institute
Idaho National Labs	National Grid	Association of America Railroads (AAR)
Johns Hopkins Applied Physics Lab	PSEG - LI	NBC Television Broadcasting Company
Regional Consortium Coordinating Council (RCCC)	Consolidated Edison Energy Company (NYC)	C&S Wholesale Grocers
State, Local, Tribal Government Coordinating Council (SLTGCC)	Eversource Energy	New York University Medical Center (NYUMC)
Cross Sector Coordinating Council (CSCC)	PPECO Energy	Marriott Corporation
FEMA Logistics	PECO Energy	Southern Company
FEMA Operations	PPL Electric	Dominion Energy
US Department of Energy	Wakefern Foods	Bank of America
US Department of Transportation	Witt-O'Brien's	

Technology Solutions & Impacts

The SISE projects led to the creation of several innovations in technology usage including the integration of the SISE into the DHS NICC via the GeoCollaborate technology used in this SISE. This technology will allow the private sector to exchange specific use case-based information with the NICC to increase situational awareness without risks of DHS taking possession of the data, a key requirement of the private sector within the SISE.

- With further funding, this connection can be extended to the state WebEOC systems which would further expand the SISE and increase situational awareness that would include the states during disasters.
- The creation of the SISE's online identity vetting process was created to help vet and verify all users of the SISE framework so that data providers know who is looking at their information, and for what purpose, for how long, etc... This process did not exist prior to the SISE and now is actively screening and segmenting potential SISE users almost every day. This increases the trust between SISE public and private sector users.
- A new SISE secure chat application was tested and approved for use during disasters that links the private sector and government into small private chat groups for faster, real-time information exchange during disasters from smartphones or computers. This reduced operational delays with industry and states during many disasters in 2018 and 2019.
- New federal and private sector datasets were identified and are now used to help decision making and situational awareness in the areas of flooding, open commercial routes, aerial imagery for manage assessments, and lodging availability during disasters. This enhances situational awareness, decision support, and reduces risks by expediting response efforts. New social media analytics data has been identified to be tested that will provide vetted social media data to be used in an operational alerting capacity for wildfires, storms, floods, active shooter, cyber, and a host of other topics. This provides a predictive alerting that saves hours in the response process.
- Through a partnership with SISE GIS community, the discovery of new capabilities in the ESRI software platform, along with training, has allowed a major utility to begin building operation dashboards that can layer SISE GIS datasets with their own internal GIS data sets for a composite operational dashboard that didn't exist before. This helps decision making and broadens everyone's situational awareness to other sectors and agencies.
- A new partnership with the trucking sector is developing a new real-time data sharing capability (of commercial truck movements) that will significantly improve the identification of open routes for commercial traffic usage during floods and disasters to support restoration efforts of power, communications, fuel and food supply chains.



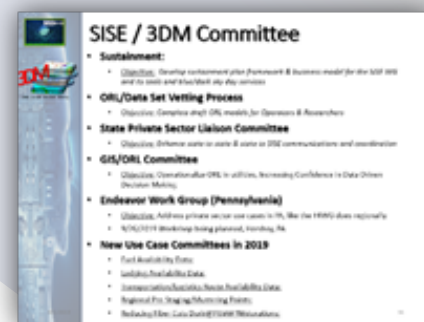
Outreach & Communication Impacts

- The SISE led to the creation of a digital outreach and communications capability designed to leverage digital media to identify, attract, educate and register interested new users in the SISE and its tools, dashboards, the RCOP and workgroups. This process was critical to the long-term SISE sustainment objectives. This digital mechanism runs in the background and automatically registers new potential SISE users 24x7x365. This has national implications with many benefits to help the government and industry provide outreach to stakeholders nationwide to educate them on almost any message. Current this is active and registers new people every week in the SISR and especially during storms and disasters.
- This SISE outreach and education capability was tested in Maryland for an Opioid Education Use Case in 2018 and reached 11,000+ citizens on MD, DE, WV, PA & VA (in just 5 days). This capability helped many of those interested get information about the cause of opioid addiction and quickly routed them to the exact webpage they needed at their local county's health department. This pilot program proved the SISE outreach concept and has national applications on public education and outreach in health, emergency management, law enforcement, and much more. See detailed results: <https://youtu.be/7pVDqhm1tzk>



Sensitive Information Sharing Impacts

- The SISE projects and committees led to the further development of the SISE (Sensitive Information Sharing Environment), a private sector operated legal framework that protects the private-sector information so that it can be shared in a trustworthy way across all sectors and government during disasters. This is a first (from the private sector's perspective) and has national implications across all sectors for those who choose to become part of the SISE framework. The SISE impacts planning, response and recovery via a closed, safe environment for the private sector to share information with each other and government. This reduces operational delays that can put lives at risk as well as communities and critical infrastructure.
- New SISE Use Case committees have formed to begin planning and discussing issues that normally would never bring industry and government together for various reasons.
- Additional new Use Case Committees to be formed include Active Shooter, Post-Cyber Attack Response Planning, Cross Sector Inter-Dependencies During Disasters, Drone Imagery, and Cross-Sector Predictive Analytics for Public/Private planning, investment and operational decision support.



Sustainment

- The SISE sustainment model required a much broader approach than just providing a single solution (e.g. the RCOP). This was determined in 2017 by the use case committee that was established for sustainment.
- To increase SISE's overall sustainment, the private sector worked with states to design a planning framework that would focus on developing new use cases to solve operational problems through sustained integrated planning via the SISE.
- The SISE provided the legal and governance framework for industry to work closely with state government through the use case committees and work on solving complex problems that involve multiple sectors and states. This was an important missing link for the private sector's interest in the SISE.... sustained integrated planning with multiple states.
- Today, the SISE framework houses the RCOP but also provides access to 80+ other solutions that are being developed through the use case committees and partners.
- The initial sustainment strategy was built upon an individual subscription model where individuals pay a low annual subscription fee and become part of the SISE planning process and gain access to much of the SISE products, events, research, etc....
- Additionally, multi-year discounts will be offered in 2019 and corporate packages are designed and tested.
- Currently, the sustainment model is active. Early results are promising but more work is needed to build the SISE's value proposition.



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5. Operational Case Study

The SISE and its solutions were used in **2017** for hurricanes Harvey, Irma, and Maria in support of expediting power restoration and private sector resource and supply chain movements within the United States, Puerto Rico, and the US Virgin Islands.

Specifically, the SISE's RCOP served as the only live, interactive, cross-sector operational focused dashboard to coordinate all 50 states and hundreds of electric sector companies in the mobilization of resources to support power restoration in Puerto Rico for MARIA.

The SISE RCOP provided a simple, visual way for the private sector to see government information that expedited their movement through or around specific states on their way to the ports in the Gulf Region and the East Coast.

What were the results?

This capability reduced many of the normal delays to almost nonexistent levels and was recognized by the industry as a best practice in electric sector coordination with multiple states



In **2018**, Hurricane Florence impacted North Carolina and the SISE RCOP, STORM Central and RESOURCES Central solutions served as the main platform to identify pre-staging areas for electric utilities headed to North Carolina, open and closed roads within North Carolina due to flooding, centralized waivers and declarations, suppliers of commercial generators, commercial providers of “high-water” pole setting track driven vehicles, and a single location to access aerial imagery from NOAA for damage assessment needs of the private sector. Not a single reported delay.

In **2019**, Hurricane Dorian impacted Florida, Georgia, South Carolina, and North Carolina and the SISE's solutions and the RCOP once again was used as the central location for the private sector to access government declarations and waivers, live traffic, weather, pre-staging areas, flood maps, alerts, and damage assessment photographs from NOAA. Not a single reported delay.

