

F R O S T & S U L L I V A N

FROST & SULLIVAN BEST PRACTICES AWARD

ENVIRONMENTAL DISASTER PREVENTION AND  
MITIGATION - NORTH AMERICA

Company of the Year Award 2019



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## Background and Company Performance

### *Industry Challenges*

The recently released Fourth National Climate Assessment, authored by the U.S. Global Change Research Program, highlights the current and projected impact of climate change to the United States. The report outlines various costs to the United States, and among them include \$141 billion from heat-related deaths, \$118 billion due to sea level rise, and \$32 billion in infrastructure damage — all together totaling \$291 billion. This vast sum reflects the fundamental changes that the environment, and subsequently society and economy, will experience due to climate change. However, it is key that municipalities are not overwhelmed by these figures. Distinct actions and strategies at the local level are critical and most important to municipalities, as these will help ensure that the impacts of climate change are averted, mitigated, and repaired. Frost & Sullivan notes that municipalities must properly address these local challenges - including moving past an over-reliance on historic environmental data, learning to effectively coordinate local resources, and understanding the interrelated impacts to community infrastructure stemming from climate change and cascading impacts to local services.

After environmental disasters, such as floods, hurricanes, fires, or earthquakes, municipalities often vow to learn from mistakes and rebuild in a way that will withstand future occurrences of the event. With the onset of climate change, however, investing to withstand historical norms or past events fails to consider the emerging need, often because this exact need is unknown. Conventional modeling is limited in the data it incorporates and the depth to which it is analyzed. Even supercomputers can take up to a week to produce modeling results. As a result, it is typically much easier and traditionally more effective to examine historical events with established datasets and known outcomes. Recalibrating for the unknown effects of climate change presents an array of known and unknown factors that have highly variable potential influences and outcomes.

While predicting what will exactly happen during a future disaster is quite challenging, the ability to understand what resources are available, where they are located, and when they can and should be used is a response challenge that is influenced by the degree to which the disaster is understood. During a disaster and in its immediate aftermath, many municipalities across North America have a limited knowledge of the degree of access and functionality of roads and transport, power systems, hospitals, and water treatment (among other key pieces of infrastructure). Municipalities and decision-makers can be overwhelmed by both too much and too little information coming in during a crisis, and can be heavily influenced by its quality and accuracy.

In addition to poor insight into conditions and a lack of informed response strategies when coping with disaster, it is highly challenging to be able to quantify the relations and interdependencies of infrastructure components. When actions are taken to improve local power systems, for example, restoring service may not be done in a way that delivers

power to the most needed areas — for example, areas that were not evacuated or critical support locations, such as hospitals.

Despite the varied and ingrained challenges that municipalities face as environmental disasters grow in intensity and frequency, Frost & Sullivan monitors new technological solutions that municipalities can leverage. One Concern, based in Menlo Park, CA, is an organization working to deliver these means. Combining human expertise with AI, One Concern Platform, the organization leverages an array of data processed with AI-enabled technology to deliver Web-accessible actionable information for customers to prepare and manage disaster scenarios in policy, investment, and response and coordination plans. Motivated by exposure to a devastating flood in Kashmir, CEO Ahmad Wani teamed up with AI-specialist Nicole Hu and earthquake expert Tim Frank to build a software platform focused on seismic activity and earthquakes to help municipalities better plan for and act during earthquakes. More importantly, Frost & Sullivan recognizes how One Concern clearly moves past other comparable organizations that offer modeling solutions that highlight locations of concern - instead offering a complete assistance solution before, during, and after disasters.

In the near future, One Concern plans to build on its seismic and flood solutions with an additional Fire product.

### *Visionary Innovation & Performance and Customer Impact*

#### **Addressing Unmet Needs through Performance Value**

One Concern is a leading global innovator of deploying AI to help public and private players, identify & solve for risks posed to them by natural disasters, filling a gap created by advancing technological capabilities. These solutions aim to help offset the \$306 billion in losses suffered within the United States in 2017 alone. For example, by determining the future location and intensity of disaster activity, institutional measures, such as regulations and building codes, can be made more resilient to avoid some of the heaviest losses to life and the environment. The use of AI technology replaces a more static and reactive management strategy for disaster scenarios, enabling a highly adaptive, multi-dimensional tool that can predict disaster outcomes and influence preparation strategies and responses.

Unlike traditional supercomputers that perform preset calculations, One Concern's solution uncovers patterns in a shorter time and determines the most likely outcomes. This new way of computing is much faster and more efficient than established supercomputing methods. One Concern feels its solution can be applied widely in disaster management and relief, as it initially targeted seismic activity, its latest 2018 rollout tackles flooding, and an upcoming solution will address forest fires.

One Concern partners and customers will gain access to a secure platform that gives them advance warnings that can influence planning decisions, public warnings, and response strategies. In a flood, for example the One Concern platform can give up to 5 days warning ahead of floods. This not only alerts municipalities to the occurrence of a flood event, but also helps pinpoint the areas that will be hardest hit and allows them to enact strategies to reduce damage and loss of life ahead of the flood. It will also direct responders to accessible areas hardest hit once the flood has occurred. One Concern recently beat IBM in a competitive tender for a state contract for AI flood solutions. Along a longer timeline with further data on static assets, mobile responses, and disaster patterns, Frost & Sullivan notes that access to the One Concern solution with matured algorithms will deliver increasingly accurate insights. These will help authorities better understand how critical infrastructure reacts and responds to emergencies, create training scenarios, and develop evacuation routes that respond to the specific threat.

### **Visionary Scenarios through Mega Trends**

Frost & Sullivan defines Mega Trends by their global and transformative nature. Climate change, with its wide and transformative impact, is an issue the entire globe is dealing with and looking to mitigate. One Concern set about to respond with a solution that will help stem the negative outcomes to improve stability for entire communities. One Concern aims to future-proof communities and build long-term resilience by minimizing the impact of natural disasters made more frequent due to climate change. Additionally, this is an early stage for the deployment of AI solutions, and One Concern properly understands that its capabilities will benefit from further AI maturity. The greater use and reach of its platforms, the larger datasets that are gathered and can be leveraged to refine algorithms and identify greater and more complex patterns. This also helps future-proof the One Concern platform itself as an agile, ever-learning solution that evolves and improves in accuracy.

### **Implementing Best Practices**

Simply identifying an attractive and needed business opportunity is obviously not enough to get off the ground and form the basis of a successful venture. While CEO Ahmad Wani was the impetus behind One Concern, he understood that in order to thrive he had to foster smart partnerships - both regarding technology and subject matter expertise. One Concern had to attract talent that represented authorities in cutting-edge technology, advanced subject matter expertise on natural disasters, and strength in government and institutional knowledge and relationships.

Wani brought in an expert in AI, Nicole Hu, a leader in earthquake science, Tim Frank, and Craig Fugate, a former Federal Emergency Management Agency Administrator. Frost & Sullivan appreciates how the organizational leadership brought by these individuals ensures that One Concern has a mutually supported 360-degree view of potential gaps, but most importantly, the knowledge and ability to push the organization to the fore in

what it can offer. One Concern's best practice hiring decisions represent a strategic nexus of leadership in relevant fields to deliver the best outcomes. These industry leaders came together, and since launching the platform three years ago in 2015, the organization now actively monitors an area that represents 36 million people, 12,076,661 residential buildings, and 651,917 commercial buildings.

### **Customer Ownership Experience**

One Concern helps customers transform from a reactive to a proactive community, most often addressing disaster before it strikes. This means that customers, both direct and indirect, gain increased agency when facing threats and natural disasters, as opposed to dealing with outcomes of natural occurrences. Woodside Fire Protection District Chief, Daniel Ghiorso, notes that One Concern "has been an eye opener...to holistically understand...risks, plan mitigations, and build resilience."

Woodside Fire Protection District has leveraged One Concern to deliver 5 key outcomes. First, the District has accurate estimates at a census block-level of how a variety of earthquake activities will impact the community and has developed response strategies and staging areas for resource and response preparedness. Second, the District has identified liquefaction areas; during a disaster, should liquefaction occur in areas needed for evacuation and response, the District now has alternative routes to improve safety. Third, the platform has allowed the District to identify critical infrastructure (e.g., schools and municipal buildings) that are at risk during earthquakes and are working to lessen risks. Fourth, should an earthquake occur, within minutes the District has real-time data that provides situational awareness to direct action towards the hardest hit areas of its jurisdiction. Fifth, the One Concern platform has been introduced to collaborators outside the Fire Protection District to promote engagement, awareness, and information-sharing.

The District is representative of One Concern's customers, who are now in a more robust position to prepare, mitigate, and respond to disaster if and when it occurs.

Fortunately, One Concern has yet to be put in practice against a flooding disaster, but modeling and internal testing for the newest platform, simulated Houston's disaster during Hurricane Harvey. It was able to identify, with 80% success, which areas were to be the hardest hit using forecasts made three days before the storm made landfall. While 80% is a number that One Concern intends to improve on, it shows the extent to which advanced planning and preparedness would have given the city authorities the time and focus to direct efforts to those most greatly impacted. Municipalities would be able to prepare in a similar way to Woodside and prepare to mitigate the worst impacts of disaster.



## Brand Equity

Frost & Sullivan feels that One Concern's brand equity can best be articulated through the customer experience of its "benevolent AI."

Benevolent AI "removes the elements of human bias and insufficient data...providing game-changing situational awareness in real-time...to identify the worst-hit areas...to determine where to focus...limited resources. We enable...decision-makers to act quickly so that the maximum number of lives are protected." Kevin Bryant, Woodside Town Manager, is quoted describing One Concern as "a mission critical partner in [the town's] journey to build resilience."

One Concern is a municipal partner dedicated to advancing the protection of life, livelihoods and economies, optimizing the allocation and deployment of resources— a key responsibility of public authorities under increasing financial duty and strain. Frost & Sullivan recognizes how this critical ability positions One Concern as an innovative partner to help towns and cities across the world to take greater control of their futures and build resilience in an increasingly turbulent time.

## Conclusion

*One Concern applies cutting-edge artificial intelligence solutions to tackle the complex and unprecedented challenges faced by communities around the world. With increasing frequency and intensity, natural disasters require intelligence-based proactive approaches to avoid and minimize damage, and to preserve life. Conventional disaster management policies leverage outdated data and utilize static response strategies that are not closely enough aligned with the actual disaster experience at hand. While the challenges and damage presented by earthquakes, flooding, and fire cost billions of dollars and lives, we now have access to an artificial intelligence platform that can help build both resiliency and sustainability.*

*With its strong overall performance, One Concern has earned the 2019 Frost & Sullivan Company of the Year Award.*

## Significance of Company of the Year

To receive the Frost & Sullivan Company of the Year Award requires a market participant to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning. These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Company of the Year Award (Visionary Innovation & Performance and Customer Impact).



## Understanding Company of the Year

Demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Visionary Innovation & Performance to enhance Customer Impact.



## Key Benchmarking Criteria

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated two key factors—Visionary Innovation & Performance and Customer Impact—according to the criteria identified below.

### Visionary Innovation & Performance

- Criterion 1: Addressing Unmet Needs
- Criterion 2: Visionary Scenarios through Mega Trends
- Criterion 3: Implementation Best Practices
- Criterion 4: Blue Ocean Strategy
- Criterion 5: Financial Performance

### Customer Impact

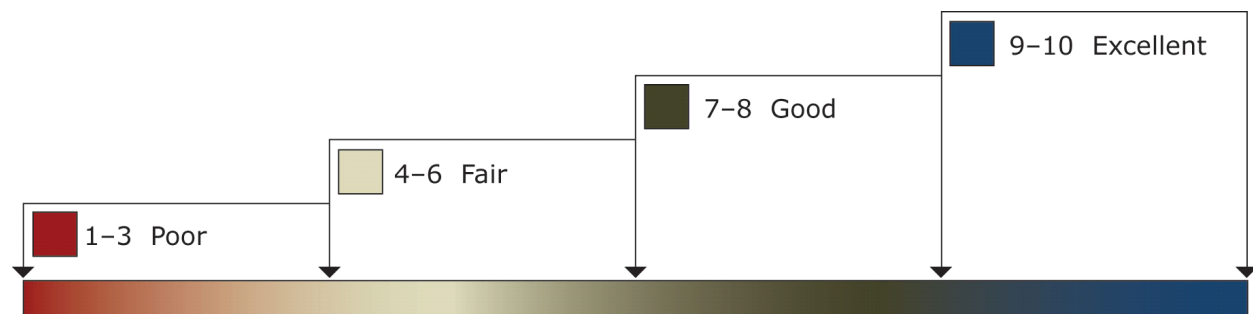
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

## Best Practices Award Analysis for One Concern

### Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

#### RATINGS GUIDELINES



The Decision Support Scorecard is organized by Visionary Innovation & Performance and Customer Impact (i.e., these are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard.). The research team confirms the veracity of this weighted scorecard through sensitivity

analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

<i>Measurement of 1–10 (1 = poor; 10 = excellent)</i>			
<b>Company of the Year</b>	Visionary Innovation & Performance	Customer Impact	<b>Average Rating</b>
<b>One Concern</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>
Competitor 2	9.0	8.0	8.5
Competitor 3	7.0	7.0	7.0

## *Visionary Innovation & Performance*

### **Criterion 1: Addressing Unmet Needs**

Requirement: Implementing a robust process to continuously unearth customers' unmet or under-served needs, and creating the products or solutions to address them effectively

### **Criterion 2: Visionary Scenarios through Mega Trends**

Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling "first-to-market" growth opportunity solutions

### **Criterion 3: Implementation of Best Practices**

Requirement: Best-in-class strategy implementation characterized by processes, tools, or activities that generate a consistent and repeatable level of success.

### **Criterion 4: Blue Ocean Strategy**

Requirement: Strategic focus on creating a leadership position in a potentially "uncontested" market space, manifested by stiff barriers to entry for competitors

### **Criterion 5: Financial Performance**

Requirement: Strong overall business performance in terms of revenues, revenue growth, operating margin, and other key financial metrics

## *Customer Impact*

### **Criterion 1: Price/Performance Value**

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market.

### **Criterion 2: Customer Purchase Experience**

Requirement: Customers feel they are buying the most optimal solution that addresses both their unique needs and their unique constraints.

**Criterion 3: Customer Ownership Experience**

Requirement: Customers are proud to own the company's product or service and have a positive experience throughout the life of the product or service.

**Criterion 4: Customer Service Experience**

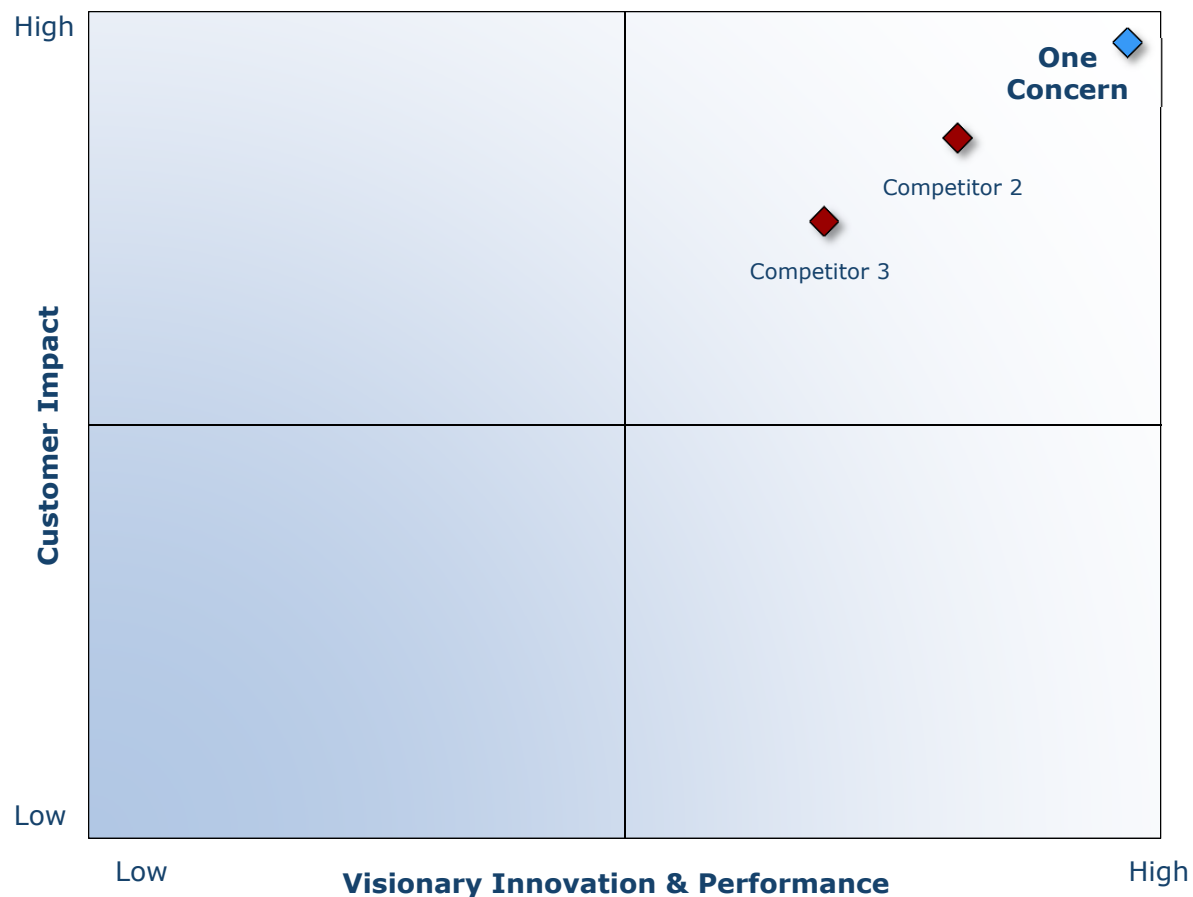
Requirement: Customer service is accessible, fast, stress-free, and of high quality.

**Criterion 5: Brand Equity**

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty.

***Decision Support Matrix***

Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.



## Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 <b>Monitor, target, and screen</b>	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>Conduct in-depth industry research</li> <li>Identify emerging sectors</li> <li>Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>Interview thought leaders and industry practitioners</li> <li>Assess candidates' fit with best-practice criteria</li> <li>Rank all candidates</li> </ul>	Matrix positioning of all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>Confirm best-practice criteria</li> <li>Examine eligibility of all candidates</li> <li>Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>Brainstorm ranking options</li> <li>Invite multiple perspectives on candidates' performance</li> <li>Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>Share findings</li> <li>Strengthen cases for candidate eligibility</li> <li>Prioritize candidates</li> </ul>	Refined list of prioritized Award candidates
6 <b>Conduct global industry review</b>	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> <li>Hold global team meeting to review all candidates</li> <li>Pressure-test fit with criteria</li> <li>Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible Award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official Award consideration materials	<ul style="list-style-type: none"> <li>Perform final performance benchmarking activities</li> <li>Write nominations</li> <li>Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> <li>Review analysis with panel</li> <li>Build consensus</li> <li>Select winner</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> <li>Present Award to the CEO</li> <li>Inspire the organization for continued success</li> <li>Celebrate the recipient's performance</li> </ul>	Announcement of Award and plan for how recipient can use the Award to enhance the brand

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
10 <b>Take strategic action</b>	Upon licensing, company able to share Award news with stakeholders and customers	<ul style="list-style-type: none"> <li>Coordinate media outreach</li> <li>Design a marketing plan</li> <li>Assess Award's role in future strategic planning</li> </ul>	Widespread awareness of recipient's Award status among investors, media personnel, and employees

## The Intersection between 360-Degree Research and Best Practices Awards

### Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

### 360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



## About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation, and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.