FROST & SULLIVAN

BEST PRACTICES AWARDS

RAPIDSOS

2020 NORTH AMERICAN IOT PUBLIC SAFETY SOLUTIONS TECHNOLOGY INNOVATION AWARD

Contents

Background and Company Performance

Industry Challenges

Rapid digitization in the public safety industry has dramatically shifted first responders' equipment needs and capabilities. First responder agencies use a range of command, control, communications, and intelligence (C3I) equipment to respond to, mitigate, and even prevent security incidents or disasters. With more and more emphasis placed on digital surveillance, digital mobile radio over legacy solutions, increased data collection in the field through body-worn video and mobile readers, and shifting connectivity standards, first responders can thus move forward with more proactive and real-time monitoring, communication, data sharing, and analysis.

Global first responder C3I spending in 2017 reached an estimated $65,168.5 million and will increase to $99,394.3 million in 2025; Frost & Sullivan's own research reveals that this growth is due to ongoing technical upgrades, improved network bandwidth and higher frequency spectrum, and improved regional and national security strategies.[1] Moreover, political and economic factors—e.g., major international events, new government contracts, and migration and border security advancements, and government objectives for improved digitization—drive many national strategies for improving first responder communications.

Conventional methods require a citizen to call 9-1-1, speak with an operator, and then the operator dispatches emergency services; however, this practice eats away at the precious little time first responders have to arrive in time-sensitive situations. In contrast to such legacy voice-centric Enhanced 9-1-1 networks, Next Generation 9-1-1 (NG9-1-1) supports a more diverse set of Internet protocol-based communications—e.g., text, data, photos, and video—to improve the speed, precision, and preparedness of dispatchers and first responder units.

While public safety technology improves and adoption increases, other challenges hinder first responders' efficiency, such as 9-1-1 emergency communications centers (ECC)'s—or public safety answering point (PSAP)'s—inability to upgrade to NG9-1-1 technologies due to budgetary restrictions, which prevents interoperability with most advanced emergency response technologies. With cities that use Enhanced 9-1-1 technologies, citizens need a way to contact 9-1-1 in situations in which they cannot speak—e.g., a domestic violence or active shooter incident; however, since many technologies do not integrate with legacy 9-1-1 systems, such individuals cannot contact an ECC unless they call.

Furthermore, first responders cannot always find an individual's exact location quickly, as conventional technologies do not take into account the mission data required to allow first responders to respond more proactively in an emergency. Frost & Sullivan analysts conclude that the public safety market must further provide tailored solutions to meet first responders' industry-specific needs for emergency response when locating an incident. Frost & Sullivan notes that a vendor that offers an automated solution that can circumvent the issues above and immediately push data directly to 9-1-1 operators will enable public safety

[1] *Analysis of the Global First Responder C3I Market, Forecast to 2025* (Frost & Sullivan August 2019)

personnel to reach destinations more rapidly; thus, significantly increasing first responders' and 9-1-1 operators' efficiency, as well as citizens' safety and security.

Technology Attributes and Future Business Value

Founded in 2013, New York-headquartered RapidSOS develops field-proven, life-saving public safety solutions to first responders that provides real-time intelligence on emergencies. The company partners with innovative technology companies to deliver its revolutionary platform to the first responder community for free, allowing citizens to receive superior emergency services.

RapidSOS got its start after one of its co-founders, Michael Martin, was close to getting robbed in New York. Rather than calling the police, Martin ordered an Uber because he knew he would not be able to speak his location to 9-1-1, whereas the Uber application (app)'s location-pin-drop capabilities would send a car to his exact location. RapidSOS' solution initially launched as a business-to-consumer app; however, the company quickly realized that a citizen's first reaction to an emergency is to call 9-1-1, not open an app on their smartphone. Frost & Sullivan appreciates how RapidSOS properly changed its focus to deliver a business-to-business solution through partnerships with technology companies and offering the platform to first responders cost-free.

Unrivaled First Responder Data Platform

RapidSOS' cloud-based platform provides first responders with information such as the citizen in need's exact device location and other emergency-specific data, including medical, emergency contacts, and other vital information. RapidSOS' Emergency Application Programming Interface (API) Suite integrates with wearables, connected vehicles, home or business security systems, and mobile apps. Public safety agencies can access data from RapidSOS-connected IoT devices through RapidSOS's free web-based portal, or through integrations with existing public safety software solutions (call-taking, mapping, dispatching, and more).

With RapidSOS, wearables—i.e., smartwatches and medical devices—offer first responders the user's opt-in profile, health, medical data, and real-time location in an emergency. Depending on the wearable's capabilities, some devices can alert first responders to the user's heart rate, blood pressure, or other incident-specific information to help first responders prepare for the overall situation before and upon arriving on scene. Moreover, a wearable can alert 9-1-1 to send emergency responders to a person's location if their wearable detects a chain of signals that could mean the user requires assistance. For instance, if a user's heart rate reaches dangerous levels and then the wearable detects the individual fell, the device can alert 9-1-1 to send public safety personnel to the individual's location and give them information on the person to enable first responders to manage the situation proactively.

Automobile telematics combines onboard vehicle diagnostics, sensors, and global positioning systems to monitor, record, and map a vehicle's location, speed, and other movements and actions. Such connected vehicles equipped with RapidSOS' technology can detect, track, and alert public safety personnel of a vehicle's activities during and after a car crash -

including the number of passengers, crash data, and other vital information. Frost & Sullivan points out that drivers can also receive roadside assistance services more quickly than other conventional methods, as RapidSOS can offer roadside assistance personnel real-time, accurate vehicle information and location.

RapidSOS integrates with security systems, monitoring cameras, and other sensors to assist first responders before arriving at a home or office. The platform can inform public safety personnel of details they might not have otherwise—e.g., an intruder with a gun and where they are in the house or office in real time. Security systems detect fires, smoke density, windows or doors breaking, and other device-triggered alarms and the RapidSOS system alerts 9-1-1 immediately with on-scene information—offering first responders and citizens better safety and security.

How It Works: RapidSOS Clearinghouse, API, and Portal

The company connects IoT devices and apps with 9-1-1 through the RapidSOS Clearinghouse, a highly secure and purpose-built Next Generation data platform. In an emergency, the company's platform receives vital information about the device or user and directly sends that data to the local ECC, allowing 9-1-1 operators to view rich critical information on their screens immediately. Even 9-1-1 ECCs operating legacy technologies can use RapidSOS' platform through either a web-based portal, or integrations into existing 9-1-1 software systems.

In contrast, Frost & Sullivan notes that other competing technologies require ECCs to upgrade to NG9-1-1 solutions before they can move beyond voice-only 9-1-1 calls. The company's platform receives data during emergency requests from sources such as Androids, iPhones, the Uber app, MedicAlert, Avaya, Waze, and more. The platform then sends the relevant information to 9-1-1 centers via RapidSOS's web-tool, or an integration of RapidSOS data into the agency's existing software systems.

Partnerships, Customer Satisfaction, and Company Growth

RapidSOS partners with companies like Apple, Google, and Uber to connect more than 250 million devices in the United States (US) to public safety agencies nationwide, sending real-time information about a citizen to 9-1-1 call centers in an emergency, allowing first responders to find and assist a citizen much faster. RapidSOS developed its robust, comprehensive technology in partnership with trusted first responder and ECC software vendors to provide 9-1-1 operators, and ultimately, first responders with accurate location and emergency data via NG9-1-1 and legacy voice-centric, dispatch, and mapping software. The company spent more than six years working with more than 4,000 first responder agencies and studied millions of 9-1-1 calls to develop an unmatched situational awareness solution that meets the industry's needs and delivers data for more than 150 million emergencies each year.

> *"This is undoubtedly life-saving technology, there's no doubt in my mind about that. There's no reason for every PSAP in this nation to not take advantage of this technology."*

–Todd Austin, Officer in Charge for Communications District, Los Angeles Police Department

Uber surveyed its driver-partners and riders to enhance their safety and security so that Uber could integrate advanced features into the app; overwhelmingly driver-partners and riders asked for an emergency response capability. Uber teamed up with RapidSOS to deploy the company's Emergency API Suite into the Uber app for US users, allowing driver-partners and riders to request emergency assistance with the push of a button. The RapidSOS-enabled Uber app is currently available in more than 250 US cities and counties, and the company recently began testing the app integration in Mexico.

> "*We're teaming up with RapidSOS on our 9-1-1 integration with local emergency authorities. If a rider (or driver) uses Uber's emergency button in one of our active cities, their location and trip details will be automatically sent to the 9-1-1 dispatcher*."
>
> —Dara Khosrowshahi, Uber CEO

> "*We are excited to be one of the initial cities to utilize this technology from RapidSOS and Uber. This partnership will help keep our citizens safe and truly has the potential to save lives*."
>
> —Athena Butler, Executive Director, Denver 911

> "RapidSOS provides emergency data to more than 3,500 agencies across the US. The company plans to expand its reach around the globe in the coming years. RapidSOS has excellent success in deploying its technology, as ECCs receive the solution free of charge. The company generates revenue by charging device and mobile app companies that want to send data to increase their users' safety and security. "Being able to see accurate location at the 911 call-taker position, through existing software systems that the call-takers and dispatchers are already used to, has been very encouraging. With RapidSOS, we can actually take action in the PSAP to improve the safety of our citizens today."
>
> –Bob Finney, 911 Communications Director, Collier County

The company's significant growth is due to its revolutionary technology, media coverage, tradeshow attendance, demos, "lunch and learns," webinars, traveling to RapidSOS clients' neighboring agencies, and—most notably—word-of-mouth. The company currently has more demand than it can meet and is hiring out-of-the-box thinkers across multiple disciplines to fill the gap and reach its goal of deploying RapidSOS technology globally for a safer world.

Conclusion

Traditional emergency request procedures require a citizen and a 9-1-1 operator to converse through legacy voice-centric technologies—e.g., landline or smartphone. Such time-sensitive situations and legacy 9-1-1 systems prompted technology vendors to create Next Generation 9-1-1 networks that allow citizens and emergency communications center (ECC) operators to relay information via voice, text, video, and data.

RapidSOS' platform integrates with both NG9-1-1 and legacy 9-1-1 networks, allowing public safety agencies to avoid rip-and-replace practices while increasing citizens' safety and security. The company's cloud-based solution relays emergency-specific data—e.g., user profile medical, device information, and location—from connected vehicles, home or office security systems, mobile applications, and wearables to RapidSOS' Clearinghouse. The platform then sends that information directly to a local 9-1-1 dispatcher's dashboard, drastically improving both emergency response times and citizens' safety and security. RapidSOS partners with well-known mobile application and device companies to deliver real-time incident information to public safety personnel; the company offers its solution to ECCs cost-free.

With its revolutionary technology, impressive customer satisfaction, and strong overall performance, RapidSOS earns the 2020 Frost & Sullivan Technology Innovation Award.

Significance of Technology Innovation

Ultimately, growth in any organization depends on finding new ways to excite the market and maintaining a long-term commitment to innovation. At its core, technology innovation, or any other type of innovation, can only be sustained with leadership in 3 key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Technology Innovation

Technology innovation begins with a spark of creativity that is systematically pursued, developed, and commercialized. This spark can result from a successful partnership, a productive in-house innovation group, or a bright-minded individual. Regardless of the source, the success of any new technology is ultimately determined by its innovativeness and its impact on the business as a whole.

Key Benchmarking Criteria

For the Technology Innovation Award, Frost & Sullivan analysts independently evaluated 2 key factors—Technology Attributes and Future Business Value—according to the criteria identified below.

Technology Attributes

Criterion 1: Industry Impact
Criterion 2: Product Impact
Criterion 3: Scalability
Criterion 4: Visionary Innovation
Criterion 5: Application Diversity

Future Business Value

Criterion 1: Financial Performance
Criterion 2: Customer Acquisition
Criterion 3: Technology Licensing
Criterion 4: Brand Loyalty
Criterion 5: Human Capital

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

Frost & Sullivan analyst 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	**Monitor, target, and screen**	Identify Award recipient candidates from around the globe	• Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies	Pipeline of candidates who potentially meet all best-practice criteria
2	**Perform 360-degree research**	Perform comprehensive, 360-degree research on all candidates in the pipeline	• Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates	Matrix positioning of all candidates' performance relative to one another
3	**Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps	Detailed profiles of all ranked candidates
4	**Initiate research director review**	Conduct an unbiased evaluation of all candidate profiles	• Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles	Final prioritization of all eligible candidates and companion best-practice positioning paper
5	**Assemble panel of industry experts**	Present findings to an expert panel of industry thought leaders	• Share findings • Strengthen cases for candidate eligibility • Prioritize candidates	Refined list of prioritized Award candidates
6	**Conduct global industry review**	Build consensus on Award candidates' eligibility	• Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates	Final list of eligible Award candidates, representing success stories worldwide
7	**Perform quality check**	Develop official Award consideration materials	• Perform final performance benchmarking activities • Write nominations • Perform quality review	High-quality, accurate, and creative presentation of nominees' successes
8	**Reconnect with panel of industry experts**	Finalize the selection of the best-practice Award recipient	• Review analysis with panel • Build consensus • Select recipient	Decision on which company performs best against all best-practice criteria
9	**Communicate recognition**	Inform Award recipient of Award recognition	• Present Award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10	**Take strategic action**	Upon licensing, company is able to share Award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess Award's role in future strategic planning	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

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