2017 United States Public Safety Solutions Company of the Year Award
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Background and Company Performance

Industry Challenges

As the dramatic pace of innovation has transformed consumer behaviors, a game-changing public safety paradigm shift is imminent in the United States. In particular, the proliferation of next-generation networks and devices has led to a dramatically more diverse set of consumer communication exchanges, including text, data, photos, and video. Frost & Sullivan research indicates smartphones accounted for just over 21% of mobile phone connections in 2009. This number increased to nearly 80% in 2016, and is expected to surpass 95% by 2022. Moreover, the average smartphone user consumed nearly 4 GB of data per month in 2016. This is expected to double over the next 5 years. Interestingly, smartphone users now dedicate approximately 90% of their mobile usage time to non-voice activities. In this dynamic environment, Public Answering Safety Points (PSAPs) have been challenged to keep up with the pace of technology innovation, and the associated evolution of IP based emergency communications.

In 2011, the National Emergency Number Association (NENA) approved a framework of core technical guidelines for the implementation of a Next Generation 9-1-1 (NG911) system known as the ‘i3 architecture’. The i3 framework is an architecture designed as an IP-based ‘network of networks’ for all public safety and emergency service entities. In contrast to a legacy voice-centric E911 network, NG911 supports a more diverse set of IP-based communications, including text, data, photos, and video exchanges that enhance the speed, accuracy, and preparation of first responders. The Federal Communications Commission (FCC) is currently working closely with key stakeholders in the public safety sector to ensure a seamless and cost-effective transition to NG911.

A Game-changing Public Safety Paradigm Shift for 9-1-1 is Imminent

From Traditional 9-1-1

- Analog, circuit-switched technology
- Static Emergency Service Numbers (ESNs)
- Siloed PSAPs
- Closed, restricted
- Legacy infrastructure
- Limited

To Next-generation 9-1-1

- IP-based technology to support voice, text, data, images, video, and multimedia
- Dynamic location information
- Information sharing across geographically diverse PSAP and public safety jurisdictions
- Cloud-based platforms to enhance incidence intelligence
- Modular, seamless evolution with technological advancements
- Broad array of robust new feature functionalities

Source: Frost & Sullivan
The NENA indicates that as of January 2017, the United States had 5,874 primary and secondary PSAPs and 3,135 counties. Frost & Sullivan research indicates that while the technology and the service components of the NG911 puzzle are now in place, the chief obstacle for counties and states lies in procuring sufficient funding. Moreover, 911 administrators have been challenged to identify the most appropriate partners for NG911 implementations.

Key challenges for ecosystem participants include the following:

**Lack of Funding & Overcoming Legacy Infrastructure**

NG911 vendors must work with stakeholders to clear obstacles blocking the path to standardized platforms. The roadblocks range from poorly designed legacy architectures, to a lack of funding and other public-policy issues. Stakeholders are attempting to unite to identify creative funding models and eliminate the mix of incompatible platforms and standards that currently exist within the ecosystem.

**Maintaining Open Flexible Structures to Respond to Rapid Technological Advancements**

The public safety market has been characterized by rapidly changing technology, evolving industry standards, dynamic customer demands, and sluggish new product and service introductions. It will be critical to improve the speed to market, performance, and reliability of NG911 products and services as the demands of the market evolve. If a large number of market participants adopt new technologies or standards, purchasers of new systems may need to incur substantial expenditures modifying or adapting enabling technologies and infrastructure. Thus, success will rely on the ability of vendors to maintain flexible, open structures that can quickly adjust to the rapidly changing technologies and industry challenges.

**Fragmented Value Chain Drives Need For End-to-End Solution Providers**

An end-to-end NG911 solution consists of Emergency Services IP Network (ESInet) components, geographic information system (GIS), customer premise equipment (CPE), system integration, and customer support. Call management, a secure IP network, and advanced customer service supports interoperability between networks are all critical elements that an end-to-end service provider must address. Currently, there are only a few select service providers that can truly support an end-to-end solution. Often market participants must identify key players along the chain and strike strategic partnerships to create complete solutions. Thus, the role of an end-to-end Integrator has become paramount as the NG911 market advances.

**Visionary Innovation & Performance and Customer Impact**

**Addressing Unmet Market Needs**

NG911 represents an industry transformation that proactively enhances public safety by acknowledging and catering to the rapidly evolving demands, products, lifestyles, and technologies of citizens. NG911 introduces an array of innovative solutions that will significantly expand public safety capabilities and drive growth opportunities for an increasing number of stakeholders.
Although NG911 is still in the early adopter stage, as standards have become more clear, there has been momentum in the number state wide and local NG911 RFPs. Generally, counties or states that control Public Safety Answering Points (PSAPs) are the purchasers of NG911 systems. Many states have centrally organized their PSAPs in order to conduct state-wide NG911 upgrades, while other states elect to purchase NG911 upgrades on a PSAP-by-PSAP basis or through regional coalitions. The challenge for purchasers, however, is that very few vendors currently offer a complete, end-to-end NG911 solution on their own.

Frost & Sullivan research suggests purchasers of NG911 systems are looking for ‘one-stop-shop’ solutions, which requires an end to end service provider. The majority of today’s vendors tend to only be partial solution providers, thus creating more complexity and fragmentation for customers. A true end-to-end NG911 solution requires an ESI.net, system integration, geographic information system (GIS), customer premise equipment (CPE), and 24/7 customer service/support.

Recognizing this unmet market need, AT&T has emerged as true NG911 integrator and service provider that can seamlessly bring together the component sub-systems (CPE, NGCT, GIS, and customer service/support) into one functioning system.

**Customer Service Experience**

More specifically, AT&T has introduced an end to end national solution, with industry leading capacity, reliability and processing power to accelerate the transition of legacy 911 to the next generation vision of 911. AT&T’s fully integrated solution reduces complexity for PSAPs and ensures new forms of communications such as texts, images, or video can be efficiently and securely routed to the appropriate PSAP. The solution provides nationally distributed, geographically diverse and redundant service architecture designed to enhance the customer service experience.

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**AT&T ESI.net™ Service Components**

<table>
<thead>
<tr>
<th>Call Management</th>
<th>IP Network &amp; Security</th>
<th>Advanced Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>• IP Voice Transformation</td>
<td>• IP Transport</td>
<td>• Multimedia Communications</td>
</tr>
<tr>
<td>• Geo-redundant Call Processing</td>
<td>• Network Redundancy &amp; Diversity</td>
<td>• Network-to-Network Interoperability</td>
</tr>
<tr>
<td>• Geographic Policy Routing</td>
<td>• Highly Secure, Private MPLS VPN</td>
<td>• Cloud Services</td>
</tr>
<tr>
<td>• Auto Overflow &amp; Alternate Routing</td>
<td>• Class-of-Service Prioritization</td>
<td>• SLAs</td>
</tr>
<tr>
<td>• Routing</td>
<td>• End-to-End Monitoring &amp; Management</td>
<td>• 24x7x365 Customer Service</td>
</tr>
</tbody>
</table>

Source: AT&T; Frost & Sullivan
The solution enables public safety interoperability with neighboring PSAPs, supports the i3 standards, and is backed by standard service level agreements (SLAs) for availability, call delivery, call quality, and provisioning. This approach provides customers with a consistent and reliable experience for predictable provisioning and implementation.

**Visionary Innovation**

Visionary innovation is the ability to innovate today in the light of perceived changes and opportunities that will arise from future Mega Trends. One clear Mega Trend is mobile connectivity and convergence. Advanced mobile networks have spurred the growth of hyper-connectivity, innovative applications, and new form factors that are changing the way we live, communicate, conduct business, and interact. This industry transformation in public safety is evident in the evolution of 911 call origination. For example, Frost & Sullivan estimates that in 2016 nearly 85 percent of 911 calls originated from mobile devices. This upward trend is only expected to continue.

In this environment, AT&T is driving visionary innovation in public safety by providing PSAPs with the capabilities to cater to evolving citizen interactions, lifestyles, and technologies. In particular, AT&T’s national ESInet solution equips PSAPS with the tools to support multiple modes of communication including texts, photos and video. Thus, AT&T provides PSAPs the ability to prepare for the future and deliver innovative solutions that will transform the way citizens and public safety entities report, react, and respond to emergency situations.

**Conclusion**

For its strong overall performance and commitment to innovation, AT&T has earned Frost & Sullivan’s 2017 Company of the Year Award for Public Safety solutions in the U.S.
Significance of Company of the Year

To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among your non-industry peers as well) requires a company 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

As discussed above, driving 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 AT&T

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.

<table>
<thead>
<tr>
<th>Company of the Year</th>
<th>Visionary Innovation &amp; Performance</th>
<th>Customer Impact</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Competitor 2</td>
<td>9</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Competitor 3</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>STEP</th>
<th>OBJECTIVE</th>
<th>KEY ACTIVITIES</th>
<th>OUTPUT</th>
</tr>
</thead>
</table>
| 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 winner | Decision on which company performs best against all best-practice criteria |
| 9 Communicate recognition | Inform Award recipient of Award recognition | • Inspire the organization for continued success  
• Celebrate the recipient’s performance | Announcement of Award and plan for how recipient can use the Award |
| 10 Take strategic action | Upon licensing, company 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.

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.