iCERT
Industry Council for Emergency
Response Technologies

THE UNIFYING VOICE OF THE EMERGENCY COMMUNICATIONS INDUSTRY

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A MESSAGE FROM THE CHAIRMAN: ELLEN O'HARA

ICERT MEMBERS, STAKEHOLDERS AND COLLEAGUES:

My sincere thanks to all of you for making 2016 another successful year for the Industry Council for Emergency Response Technologies (iCERT). Upon assuming the Chairmanship of iCERT in the fall, after a rewarding stint as a Board member, I was immediately struck by the deep commitment exhibited by all those involved in creating a bright future for our Association and the public safety industry. Your shared engagement and active participation contributed again to our success in being recognized as the vital and unified voice of the emergency response technology industry.

During 2016, we took stock of our organizational structure by revisiting our strategic plan and applying fresh insights to an already solid approach. The essence of the strategic adjustments made during this review is that iCERT's mission has been imbued with an up-to-date understanding of the marketplace, as well as a more keenly focused outlook regarding the purpose of our organization — to support the public sector professionals who serve the public, while at the same time offering a tangible view of the future of emergency response technologies.

It is clear that our message has been well received throughout the industry, as 2016 was a banner year for membership growth. We added 15 member companies to the iCERT family of industry leaders in 2016, increasing our member count by 35% during a time in the association arena when a 5-10% increase is considered substantial. The visibility and efficacy of our efforts, along with the diligent and insightful contributions of our members, have fostered growing interest in iCERT and a desire to be part of the solution by participating alongside like-minded industry experts.

Industry Council activities during 2016 touched on an array of important issues, and we led the way by engaging with partners and stakeholders to build the capacity of both the public and private sectors, fostering greater efficiencies and building technology solutions for a vibrant future. To get us there, iCERT sponsored key industry events, crafted and issued insightful publications, engaged with stakeholders on crucial policy initiatives, participated in notable public safety events, and continued critical work under federally supported grant programs. These activities

Through advocacy, research, and in coordination with the public sector, iCERT plays a vital role in the development and deployment of emergency response technologies.

are outlined in the sections that follow. I would like to call attention to a few of our more visible undertakings, where iCERT not only participated during 2016, but where we also led and guided efforts toward the goal of shaping a more effective environment for public safety technologies.

The Capitol Hill Day of Knowledge Sharing, which took place in late February, co-produced by iCERT and the NG911 Institute, brought together key stakeholders and interested parties to discuss ongoing and burgeoning matters associated with the future of emergency calling and communications. The event included a technology showcase, consisting of displays and demonstrations on emergency calling and communications products and services, presented by key leaders in the field, all with a focus on advancing NG911 adoption. This event was followed by the announcement of the NG911 Now Coalition, which is a collaborative effort founded in partnership with iCERT, the National Association of State 911 Administrators and the National Emergency Number Association, with support from the NG911 Institute. Throughout 2016, the Coalition offered leadership, guidance and support regarding the goal of nationwide adoption of NG911 in America by the year 2020, and iCERT helped to lead the way alongside our public sector partners.

Later in the spring, iCERT and the IJIS Institute co-produced and co-hosted a national event focused on emergency response technologies, data sharing and safeguarding, entitled the Emergency Response Technology Forum. The event brought together notable leaders from the public sector, with support from the private sector through the convening entities. The theme for the event was "Improved service delivery to the community," with a sub-theme of "Leveraging technology to achieve fiscal and operational efficiency," through:

- Information sharing and safeguarding,
- Public/private engagement, and
- Enhancing service-provider awareness and understanding.

Prominent experts from public agencies and commercial enterprises discussed the existing setting for emergency response technologies, while providing recommendations to advance industry's innovative solutions. The Forum also offered another example of iCERT's valuable input into the central themes of industry leadership and technology visioning.

While the activities I've summarized here represent only a small sample of the types of efforts undertaken by iCERT on behalf of our members and the field at large, in the pages that follow you will learn about the many aspects of iCERT's reach, influence, engagement and success.

As you know, our members believe that business leaders' expertise can assist public policymakers and government emergency communications professionals as they address complex choices regarding advanced communications technology alternatives in the years ahead. Through advocacy, research, and in coordination with the public sector, iCERT plays a vital role in the development and deployment of emergency response technologies. As a leader in our industry, I'm sure you will recognize the value in being part of a dynamic community where you can share and exchange insights and expertise as you connect with your industry peers and with public safety professionals.

Thank you again your contributions to our positive outcomes during 2016, and in advance for your efforts in 2017 as we continue our important work together.

Respectfully,

Ellen O'Hara

ELLEN O'HARA
Chair
Industry Council for Emergency Response Technologies
Chairman of the Board
Zetron, a JVC Kenwood Company

EXECUTIVE DIRECTOR'S MESSAGE: GEORGE RICE

The organizational principles, activities, and accomplishments outlined by iCERT Chair, Ellen O'Hara, speak directly to the mission and purpose of the Industry Council – to serve as the unified voice of the commercial sector in the field of public safety technology, working in concert with key stakeholders to advance policies and strategies that support emergency services.

This core purpose serves as a beacon for our service to the field of emergency response technologies, and lights the path for our programs and efforts. iCERT brings a collective industry perspective that provides valuable insights for our public sector colleagues, and 2016 was indeed another year in which we've adhered to that commitment. Our Association and its member companies again contributed to, and led on, matters of great importance to the development and deployment of the systems and technologies that protect life and property around the world. Industry Council members are national and global leaders in fostering innovation.

Through its programs and activities, iCERT helps them be heard, be counted, and be influential as they support the current technological and policy setting, and craft innovations that will shape the future. During 2016, iCERT gathered leaders, conducted and disseminated research, and offered insights into the future of the industry. Whether by analyzing and assessing the impact of new technologies on emergency communications, or through implementing existing ones and learning from others in overseas markets, iCERT – the Association and its member companies – acted as a central repository of knowledge and leadership in the

emergency communications industry. These activities have allowed iCERT to grow into the well-known and trusted source for engagement with the commercial sector on matters of public safety technologies.

As communications operations combine into regional centers or shared resource settings; as cyber security increases as a matter in need of distinct attention; as the notion of interoperability expands to include not only field responders but emergency calling center professionals and other community-wide services; and as the need for greater data storage and analytics continues to grow and the current economy continues to compel agencies to do more with fewer resources; the nature and extent of emergency communications planning has transformed into what is now an ever-changing landscape, where many challenges lie ahead for the field of emergency response technologies.

The pages that follow will provide a holistic view of the capabilities and yield of the Industry Council for Emergency Response Technologies during 2016 and beyond.

George Rice
Executive Director
iCERT

STRATEGIC PLAN AND SPONSORSHIP

Updates to Strategic Plan

During its summer 2016 meeting, the iCERT Board of Directors reviewed a number of strategic elements concerning the organizational setting of iCERT and the Association's mission. Two primary results of this engagement were the development of an updated organizational strategic plan, along with modest changes to the dues structure.

The new organizational plan is outlined in a separate PDF, where you will see the progression of iCERT's core initiatives over time, along with the newly adopted strategies, which are now in effect as of the Board vote on July 12, 2016. The essence of these strategic adjustments is a more organized approach to achieving the core mission of the Association, while also providing a focus on the health and wellbeing of iCERT as an organization in support of the industry.

Annual Sponsorship Package

To continue providing members with an opportunity to holistically shape their involvement in iCERT throughout the year, the previously developed annual sponsorship package will remain in 2017.

The annual sponsorship form offers a menu of options for members to create a customized package that best suits their market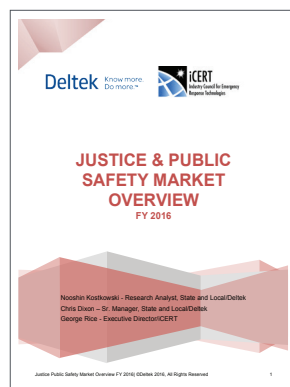ing needs. Sponsorship packages are based on the calendar year and are independent of a member company's dues cycle or payment. The packages should ideally be crafted and purchased in advance of the program year for the activities selected. Annual dues payments may be added to the sponsorship package, should a member company prefer to make one single payment. Packages can be crafted at the beginning of a program year.

Those wishing to take advantage of this program to secure opportunities for engagement and visibility should submit a completed sponsorship form and schedule a call to review details in finalizing their chosen package.

Individual Member Company Planning Meetings

To ensure that the Association is responsive to the individual needs of a given member company, iCERT and the member company can hold a planning meeting to address the company's specific goals related to its membership. These meetings offer member companies the opportunity to craft an approach that best suits their business goals and industry objectives, while also aiding iCERT in its mission to continue advancing its understanding of the industry. Reach out at your convenience to schedule a conversation that will help focus efforts on your company's engagement benefits.

PUBLICATIONS AND RESEARCH

2016 Market Overview

At the beginning of 2016, iCERT published the *2016 Justice and Public Safety Market Overview*, crafted with iCERT's domestic research partner, Deltek.

This report – a pro bono service exclusively for iCERT members – is the fifth in a series of annual reports initiated through iCERT's partnership with Deltek. Compiled within this 2016 overview is an analysis of how states intend to direct emergency response expenditures throughout the year. Our goal in presenting this data is to offer a high-level synopsis regarding the scope and direction of public sector expenditures in the justice and public safety fields. Since sound business planning is contingent upon having accurate information for realistic forecasting, this publication is envisioned as a starting point for internal analysis of specific business development opportunities.

iCERT members can contact the Executive Director to acquire a copy of this report – the Executive Summary of which is available for review online.

Global Command & Control Room Marketplace Report

In spring 2016, iCERT issued its first report on the global marketplace for command and control rooms, exclusive for iCERT members. This report focuses on trends in public safety control room revenues and installations, and provides commercial entities with insight into this evolving market.

Prepared in collaboration with noted iCERT research partner IHS Technology, this report provides analyses of the market prospects for various technologies in our industry, and summarizes the nature of the market as a whole, while offering a few closing thoughts on future and ongoing developments.

iCERT members can view the Executive Summary of this report on iCERT's website, or contact the Executive Director to acquire a copy.

As an ongoing membership benefit, members receive a 5% discount on all IHS reports, in addition to pro bono reports like this one that are provided to iCERT members through this great partnership.

Public Safety Planners Guide

Working Together: Partnering to Face Today's Critical Public Safety Technology Issues, is a public safety planners guide intended to foster greater understanding between public and private sector emergency response technologies professionals, as both sectors work together toward successful implementation of public safety technology projects.

With chapters contributed by iCERT members, this report has been disseminated to our public sector association partners listed below, to assist their members as they seek and secure commercial sector participation in public safety technology development and deployment projects.

Association of Public-Safety Communications Officials
Association of Public-Safety Communications Officials - Australasia
Association of Public-Safety Communications Officials - Canada
British Association of Public-Safety Communications Officials
International Association of Chiefs of Police
International Association of Fire Chiefs
National Association of Counties
National Association of Regional Councils
National Association of State 911 Administrators
National Emergency Number Association
National League of Cities
Public Technology Institute

The report has also been posted to our website. It is our hope that this report will prove to be an excellent aid in promoting more in-depth and highly effective public/private partnerships in the field of emergency response technologies.

iCERT–PTI–Deltek Survey of Law Enforcement Priorities 2016

A 2016 survey of 9,735 sworn police officers conducted by the Public Technology Institute (PTI), iCERT and Deltek found that top technology priorities for policing were in radio communications, mobile data and body-worn cameras. The overall results were shared during a joint iCERT-Deltek presentation at PTI's CIO Summit in September and during a joint PTI-iCERT-Deltek webinar also in September.

Presentation at PTI CIO Summit
The survey results were unveiled to CIO Summit attendees to provide them with a better understanding of the law enforcement technology operations and management issues affecting governments nationwide.

Webinar to Disseminate Results and Findings
PTI, in partnership with Deltek and iCERT, hosted a webinar to share the results of the survey and takeaways, as unveiled during the CIO Summit. Presenters explored the results of the survey, including staffing, budgeting and funding issues and trends, and public safety project priorities.

iCERT members can contact the Executive Director to acquire a copy of the survey's results.

iCERT Annual Report

On iCERT's website, you will find the Annual Report for 2015, which covers our activities and accomplishments during the previous year, and lays the groundwork for continuing iCERT's mission as the unifying voice of the emergency response technology industry.

As you will see in the report, we had another robust year of activity in 2015 thanks to your efforts and diligence.

POLICY EFFORTS

Governance and Reliability Consensus Plan

On the iCERT Policy Statements webpage, you will find the 911 Governance and Reliability Consensus Plan, jointly developed by the stakeholders group noted on the first page of the transmittal letter to the U.S. Federal Communications Commission (FCC).

Consistent with commitments made during the group's prior ex parte presentations in March and October of 2015, the consensus plan is designed to ensure reliable and resilient 911 service as consumer and public safety networks transition to Next Generation 911 technologies and systems. This plan was developed through a course of intensive discussions spanning several months, and we believe it reflects a viable path forward as the FCC seeks to address issues surrounding 911 governance and reliability.

For added background on our process, members of iCERT's Policy Committee worked in concert with the stakeholder organizations' representatives to develop a series of draft consensus plans over a number of months. Upon reaching agreement on a final review draft, each organization then vetted – and amended as warranted – the final draft, which was then ratified by each organization's internal authority (in our case the iCERT Board of Directors) and subsequently forwarded to the FCC.

NG911 Now Coalition

In February, a group of public safety and industry leaders, in cooperation with the National 911 Program and the Next Generation 911 Institute, formed a nationwide effort, named the NG911 Now Coalition, to accelerate the implementation of Next Generation 911 (NG911) services by the end of 2020. The mission of the Coalition is to create increased attention to NG911 issues and promote actions that will accelerate implementation of NG911 systems and services throughout America.

The Coalition is supported by government partners, members of academia, and is led by 911 and emergency communications organizations that share a common mission to promote more effective emergency calling and response services:

- National Association of State 911 Administrators (NASNA)
- Industry Council for Emergency Response Technologies (iCERT)
- National Emergency Number Association (NENA)

The Coalition has evolved into a leading advocate for accelerated deployment of NG911, and has launched a nationwide campaign to achieve its goal that by the end of the year 2020, 911 systems and call centers in all 56 states and territories will have sufficiently funded, standards-based, end-to-end IP-based 911 capabilities, and have retired legacy 911 systems, without any degradation in service. The Coalition has since sought the assistance of other government and public safety organizations, as well as industry partners, as it works to implement an action plan to secure the funding, governance, best practices and policies that will make this vision a reality. The

result has been the addition of the National States Geographic Information Council (NSGIC), Urban and Regional Information Systems Association (URISA), the Internet 2 Technology Evaluation Center at Texas A&M University and iCERT's research subsidiary, The 911 Education Foundation, as partners to the Coalition and its mission.

The effort is organized into five areas:

Governance All necessary governance structures, policies, and regulations should be developed at each level of government to facilitate NG911 planning, deployment and operations in a manner that promotes coordination, interoperability, and efficient use of resources.

Technology Technical standards and best practices, including those designed to promote cybersecurity, need to be developed, completed, or refined via accredited standards development organizations; and model plans should be made available to guide state and local agencies in the deployment of NG911 systems.

Operations NG911 operational standards and best practices, including those addressing regional deployments, interconnection, data/resource sharing, and network monitoring need to be developed, completed, or refined.

Education A broader understanding of NG911 is needed, with a focus on its capabilities and benefits, as well as the limitations of current 911 services and the significant consequences of a delayed and/or uncoordinated deployment of NG911.

Funding More detailed analyses of NG911 costs are needed, as well as new and/or refined funding mechanisms—including from the federal government—to ensure that NG911 funds are sufficient, available, and sustainable over the long term, in order to promote more cost-effective NG911 deployment.

Further information can be found at: www.ng911now.org.

Targeted States Campaign

The iCERT Targeted States Campaign is a U.S. state-by-state program in support of efforts to secure and protect 911 funding in all its forms. Working in conjunction with state and local officials, the Campaign provides much needed resources to initiate, maintain, and bring to fruition state-level efforts to ensure that emergency calling is properly resourced.

Measures of Success:
1. **Shifts in norms** - reduced state reliance on 911 funding for unrelated matters
2. **Strengthened organizations** - general increase in 911 agency budgets due to regular transfer of dedicated funding
3. **Improved policies** – amended state regulations and/or administrative practices to ensure flow of funding
4. **Specific impacts** - key examples of properly repositioned funding

Program activities:
- Engaging state-level government leaders, organizations and advisers
- Crafting and disseminating tailored educational pieces
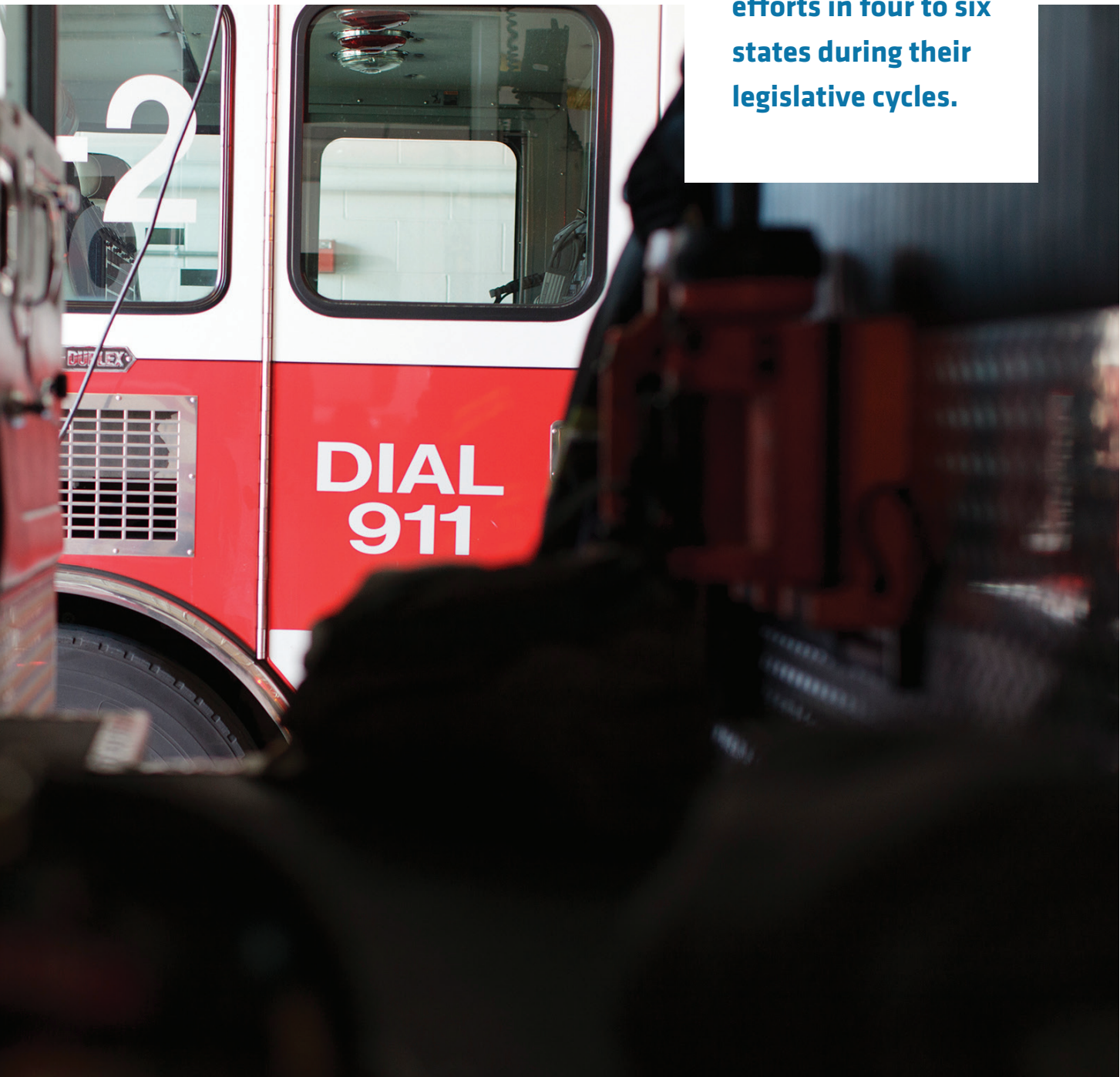- Convening partners and other officials

In a given year, iCERT undertakes such efforts in four to six states during their legislative cycles. Activities undertaken during 2016 are outlined below, and 2017 activities are currently underway. A key legislative theme in the summaries below is the addition of pre-paid wireless and VoIP services to the communications services for which 911 fees can be collected. Many states still do not have legislative mechanisms to collect from these services, which can access 911 for a caller, but do not help fund emergency calling. Our Campaign is looking to amend this practice in these states so that fees can be collected to support 911 services.

HAWAII SB 2805 (companion bill HB 2276): A bill crafted to establish a prepaid wireless E911 surcharge of 66 cents per retail transaction at the point of sale. The bill required that the amounts collected by the Enhanced 911 Board be placed in the Enhanced 911 Fund, and would be effective on July 1, 2017. The bill was reported out of the House Ways and Means Committee with a recommendation for passage on March 4, 2016. It was received in the Senate on March 10 and referred to Senate Committees for action. Assurances were made that it would receive consideration, however the session ended on May 13 without further action. This initiative will be taken up again in 2017.

KENTUCKY HB 585: A law signed on April 13, 2016 amended specified sections to allow local governments to collect 911 fees from pre-paid wireless services and VoIP connections. The State had been using $32m from its general fund annually to supplement 911. The

In a given year, iCERT undertakes efforts in four to six states during their legislative cycles.

Kentucky League of Cities helped to move this bill forward, which was a big success for the Campaign during 2016.

MASSACHUSETTS HB 3747: A measure to authorize the Department of Revenue to collect a surcharge for 911 services from the end users of prepaid wireless services at the point of sale on each retail transaction. On March 16, 2016 the State Senate concurred with the bill, but state-based public safety entities (Chiefs of Police) stepped in to stop this measure from proceeding to passage, forfeiting an estimated $5m annually to avoid paying a 3% commercial vendor compensation fee associated with the surcharge. This initiative will be taken up again in 2017.

MISSOURI HB 1904: A bill designed to consolidate 911 funding in the state, which included a measure for prepaid wireless. The Missouri House passed this bill on March 29, 2016 and referred it to the Senate Committee on Commerce, Consumer Protection, Energy and the Environment, with a proposed effective date of August 28 of this year. It was placed on the Senate calendar for debate and Senate leadership was inclined to move the bill forward. Passage failed as the state's legislative session ended on May 13 with the bill still awaiting movement. This initiative will be taken up again in 2017.

NEW MEXICO HB 126: From the 2015 session, a bill designed to add prepaid wireless and VoIP service to the state's surcharge system to fund 911. No action was taken during the 2016 short-session, which ended on February 18 after taking up only a short administrative docket.

We have been diligently working in conjunction with the New Mexico Association of Counties to structure an educational campaign in advance of the 2017 cycle. iCERT and our partners have met with key legislators to form a coalition of supporters to help shepherd the bill through in 2017. The new bill for 2017 is not likely to be altered from the 2015 language. There are an estimated 318,000 pre-paid wireless users in New Mexico, making up an estimated loss of about $1.9 million in 911 funding annually. The current landline surcharge system is causing a drop in revenue at a rate of 3.25% each year. A revenue neutral approach will not be accepted as a compromise. The Campaign's main message points are that the funds are needed for current operational costs, where there is a shortfall, as well as NG911 transition; and that this is not a tax – which has been offered by the Governor as a reason not to consider the bill.

We have set in motion a plan to garner sponsors and re-introduce in January the same bill from earlier this year. Support in the legislature will be fair, and affirmation from the Governor's office is the primary target of our Campaign. We've crafted an information sheet specifically for New Mexico that was circulated around the legislature. Representatives of the New Mexico Association of Counties are reaching out to the Governor on multiple fronts so that we can assuage any sentiment that this bill represents a new tax. Members of the legislature will also reach out to the Governor and we'll begin more direct outreach after the national elections in November.

In the meantime, the legislature called a short emergency budget session and diverted $6m

from the Enhanced 911 Fund to the state's general fund to balance the budget. This action will be used in the 2017 session as a key message point to advance the bill.

Emergency Alerts and Warnings Policy Statement

At the core of the position statement crafted and adopted by iCERT earlier this year is that while state, local, territorial, and tribal authorities have a range of alerting and dissemination technology at their disposal, there is no requirement for them to adopt the Integrated Public Alert & Warning System (IPAWS), the system operated by the Federal Emergency Management Agency (FEMA). IPAWS is not mandatory and does not replace existing methods of alerting, but instead complements existing systems and offers new capabilities. Below are the key features of iCERT's position on this important issue. The full statement can be found on iCERT's website under Policy Statements.

iCERT Position:

- The federal government should engage and collaborate with the state, local, tribal, and territorial authorities to determine their alert and warning needs to assist in setting alert and warning technology policies and procedures for use.
- DHS and/or FEMA grant funding should be directed to the state, local, tribal, and territorial levels to support the adoption of alert and warning technologies.
- The federal government should collaborate with wireless providers to explore what

incentives may be necessary to promote continued improvements to the Wireless Emergency Alert (WEA) system, including the potential for establishing revenue-producing WEA-based services.
- State, local, territorial, and tribal entities should adopt, review, and adhere to national policies, regulations and standards related to public alerts and warnings to become authenticated to send alerts and warnings through IPAWS by:

1. Selecting IPAWS compatible software
2. Applying for a Memorandum of Agreement with FEMA
3. Applying for public alerting permissions
4. Completing IPAWS web-based training
5. Testing the IPAWS system

Technology Obsolescence

Under the auspices of the Technology Transition Working Group, iCERT has taken on this issue as a policy item, focused on building momentum around discontinuing the use of legacy or obsolete technologies for public safety communications, in part due to the fact that these technologies can foster service failures. Emphasis is placed on ensuring that both industry and the public sector are diligently moving forward with the adoption and implementation of proven new technologies and away from legacy solutions. The iCERT Technology Transition Working Group will develop a recommended position statement – iCERT's policy stance – to be vetted through the iCERT Policy Committee and subsequently provided to the iCERT Board of Directors for consideration and adoption.

EVENTS AND OUTREACH

Capitol Hill Knowledge Sharing Day

The 2016 Capitol Hill Day of Knowledge Sharing took place in late February and was a tremendous success. iCERT and the NG911 Institute organized the event to convene key stakeholders and interested parties on ongoing and burgeoning matters associated with the future of emergency calling and communications in America. As we all know, adoption of NextGen 911 capabilities will transform the way in which the public accesses these services, and the way in which call-takers, dispatchers, and first responders deliver lifesaving assistance. The event's activities were anchored by a technology showcase consisting of displays and demonstrations on emergency calling and communications products and services, presented by key leaders in the field, all with a focus on advancing NG911 adoption. A highlight of the event was the announcement of the NG911 Now Coalition, which is supported by NENA, NASNA, the NG911 Institute, and iCERT. As the mini-expo and product presentations wrapped up in the afternoon, the evening turned toward the NG911 Institute's awards reception. Attendees headed to the gala event, also held on Capitol Hill, where members of Congress and a number of notable participants celebrated the achievements of public sector professionals and elected officials in advancing NG911 across America.

PTI Smart Cities & Counties Presentation

With growing attention surrounding the issue of Smart Cities and Counties as a feature of the emergency response technologies arena, the Public Technology Institute (PTI) invited iCERT to lead a session at their 2016 Smart Cities & Counties Summit, entitled *Innovation and Smarter Public Safety Systems*. Moderated by iCERT, the panel discussed technology dashboards, data correlation, information sharing and safeguarding, and mobile data systems, all within the context of a smart city's and county's approach to data management and use.

Emergency Response Technology Forum

Co-produced and co-hosted by iCERT and the IJIS Institute (IJIS), this event offered an innovative venue for prominent leaders from the emergency response community and technology industry to address emergency communications and IT challenges.

The goal of the Forum was to create a consensus-based strategic framework to address a set of near term public safety technology implementation solutions and to identify prospective new technology initiatives spanning the next five to ten years. The planned result will be a roadmap for leveraging available and future technologies that will support the advancement of a nationwide public safety mission.

iCERT brings a collective industry perspective that provides valuable insights for our public sector colleagues.

Discussions during the Forum addressed important initiatives, including:

- Emergency Calling in an IP-Based World
- Interoperability and Data Sharing for the Future
- Nationwide Public Safety Broadband – FirstNet
- Burgeoning Technologies for Public Safety
- Cybersecurity for NG911 and Public Safety Networks
- Technology Futures

This Forum also provided a unique networking environment for practitioners, industry, and policy makers, including agency executives and chief information officers (CIOs) from the emergency response practice communities, as well as executives and technologists from the industry. This assembly of experts explored the applied use of operational and technological standards, such as: Cybersecurity; Identity and Access Management; Operational Integration Protocols; Geospatial, Video, Social Media aspects; and Data Management in the Digital World.

IWCE Panel on Text-to-911 Services

iCERT hosted and moderated a Text-to-911 roundtable panel during the 2016 IWCE expo, which included presentations from Motorola Solutions and TeleCommunication Systems (now Comtech), as well as a law enforcement executive and an attorney focused on public safety technology regulatory matters. The panel began by assessing the current setting, followed by looking toward catalysts for advancing technology goals, and closed with exploring prospects for ongoing development

as organized in the following outline. The panel was well received and fostered excellent engagement during the session, as well as a number of follow up conversations afterward.

Where we are...
- FCC proceeding and rules that spawned implementation
- State of implementation nationwide
- Current PSAP capabilities and pre-deployment planning needs
- PSAP implementation and support - Use cases

How we should advance...
- Prospects for application of standards
- Over the top applications – MMS, SMS, OTT
- "Caller" location technology capabilities
- Disabilities community needs and accessibility issues
- Convergence with NG911 and public safety broadband
- Prospects for further adoption and implementation

What's on, and over, the horizon...
- Legal and privacy issues
- Ongoing technical needs
- Ongoing funding needs
- Support from telephony carriers

Membership Outreach and Networking Receptions

In 2016, iCERT again hosted receptions at both the IWCE and APCO expos. Led by the iCERT Board of Directors and Membership Outreach Committee, these receptions offered an environment for B2B conversations among commercial colleagues, where members and non-members got to know one another

in greater depth, and craft relationships for the advancement of emergency response technologies in a collaborative setting. A key group of our public sector and nonprofit leaders also joined iCERT and ostensibly lent insights and opinions to inform the conversations, and to ensure a fitting focus on the needs of public safety. Members and guests were able to experience firsthand the energy and deep connections that are available to companies as a member of the Industry Council, which also resulted in the expansion of iCERT's membership, as a number of guests subsequently became members.

iCERT Organized Magazine Article for *Wireless*

As a prominent feature in the May-June edition of *Wireless* magazine, iCERT contributed an article on the status and direction of the First Responder Network Authority (FirstNet), penned by iCERT Board level company, Mission Critical Partners. The article outlined the promise of FirstNet, along with proposed devices, form factors, coverage issues, roaming challenges and the network security, reliability and resilience issues that accompany such a comprehensive task as the establishment of a nationwide public safety broadband network. The magazine was widely distributed in print during CCW 2016, and to the publication's numerous multi-national subscribers.

Body Worn Cameras Webinar

This webinar, hosted by TriTech Software Systems on behalf of iCERT, provided participants with an overview of trends and matters of importance regarding the adoption and use of body worn cameras for public safety

and law enforcement. A panel made up of a law enforcement executive and a state-based public safety researcher joined a representative from Winbourne Consulting as iCERT provided background information and moderating support. The presentations were designed to provide insight for emergency response professionals, through the examination of burgeoning functionalities as well as operational impacts, while moving these issues into the larger conversation of technology use and development for critical communications and public accountability.
Key points:

Public opinion is a strong driver for adoption of body worn cameras, particularly in the wake of several high profile police community interactions, injuries and, tragically, loss of life.

A series of financial and operational considerations must come into play when determining how to deploy these systems, in addition to the cost of the cameras.

Staffing, data storage, governance, equipment maintenance, evidence processing, and training resources.

CCW Panel on Data Capture and Cyber Threats

During the 2016 Critical Communications World event in Amsterdam, iCERT hosted and moderated a panel entitled, *Benefits of Peripheral Data Capture and Analysis Technologies vs Risk of Cyber Threats*. The panel's premise was focused on the idea that given the many types of additional data elements that are becoming part of the critical

communications ecosystem, such as body worn camera imagery, information from license plate readers, data from facial recognition software, and the like, how can we ensure that public safety communications systems remain secure as these data sets, and many more, are integrated into networks and platforms? An international panel featuring iCERT Board level company, Intel Security, along with public safety technology experts from Canada and the United Kingdom, addressed this issue by posing and discussing the key questions:

- What are the emerging technologies that will impact the critical communications community now and in the future?
- What are the benefits of using data capture technologies for front line responders?
- How does the increased connectivity affect cyber risks?

The resulting discussion, to include several questions from the audience, led all involved to the conclusion that this matter needs even further examination, and should perhaps be the sole focus of a forum at a later date.

NASNA Briefing and Reception

Each year, iCERT provides to the National Association of State 911 Administrators (NASNA) during its annual summer meeting, a briefing pertaining to the industry's collective insights on critical emergency response technology matters, and on iCERT's efforts to address them. Last year's briefing included a number of iCERT member company representatives, with iCERT staff leading the session. NASNA's Board

of Directors engaged in discussion during the session, as did a number of NASNA members. Now an annual tradition for iCERT and NASNA, the briefing was again followed by an informal iCERT-sponsored social and networking event. Last year's event was designed as an extended reception, where iCERT members engaged with NASNA members, as well as with guests from the Federal Communications Commission (FCC), the National 911 Program Office, and the U.S. Department of Defense. The extended reception allowed iCERT participants to touch base with any and all of the 45 public sector attendees, while also providing time for outings afterward. Feedback on this event was again highly complimentary from both NASNA and iCERT participants.

U.S. and Global Marketplace Webinar

In June of 2016, iCERT and trusted research and data analytics partners IHS and Deltek, held an informative webinar on the *Global Marketplace for Emergency Response Technologies in the 21st Century*. Experts discussed unique global trends while also delving more deeply into details associated with continental regions and the American marketplace at various levels of government. Attendees came away with an enhanced understanding of the U.S. and worldwide marketplaces in this ever-evolving industry.

5G World North America

In November, iCERT will Chair the Public Safety Track at this continental-focused conference held in Dallas. Sessions will include an emphasis on overcoming interconnection challenges, how different networks coexist at the national and local levels, evaluating technologies for search and rescue, potential impacts of 5G on public safety, and key elements addressing funding concerns. In addition to presentations that will be made by local, state, federal and international public safety leaders, iCERT Board level company The Digital Decision will also host a presentation on overcoming the interconnection challenge and examining how different networks will coexist.

Reception with APCO Canada Board of Directors

During the 2016 APCO Canada Annual Conference and Expo, iCERT hosted a reception with the Board of Directors of APCO Canada as a networking and idea-sharing event. iCERT members in attendance were able to interact with APCO Canada's leadership through this distinct public-private information exchange exclusive to iCERT. Of particular note were conversations regarding cross-border initiatives and how iCERT's member companies can continue to be of assistance as public agencies in Canada direct and manage their crucial international coordination efforts. Both organizations benefitted from the engagement and have set plans in place to repeat the event on an annual basis.

Public Safety Track at 5G North America in November

As part of the 2016 5G North America Conference, iCERT led and hosted the public safety track, which featured presentations and discussions on standards, interoperability, network interconnection, PSAP funding, spectrum sharing with utilities and emerging technologies. The track attracted the attention of key figures in the public safety field throughout the day, as part of a wider event with sessions and keynotes on an array of telecommunications issues.

GRANT FUNDED PROGRAMS

NG911 Cybersecurity Project

As a subcontractor to the University of Houston, iCERT was awarded last year a modest level of grant funding through the U.S. Department of Homeland Security, over a three-year period, to study and assist in the demonstration, evaluation, and design of low cost and open standards-based mitigation strategies that can significantly strengthen the resilience of today's 911 and NG911 systems against malicious acts such as DDoS attacks. iCERT continues to assist the project by providing industry feedback and input to the study, while contributing expertise through the participation of iCERT member company volunteers.

This continuing research effort looks to:

(a) Evaluate threats of DDoS attacks against 911 and NG911 such as smartphone based DDoS to 911 systems from mobile malware, and DDoS from large scale distributed robot/spam call attacks

(b) Propose innovative solutions and techniques that can effectively mitigate DDoS against 911 or NG911 systems without incurring a high financial burden to the local and state emergency response community

(c) Develop simulation tools and DDoS resilience 911 software compatible and interoperable with the NG911 industry standards

(d) Validate and evaluate the solution in both security protection against DDoS and impact to the 911 service quality using clearly defined metrics

(e) Demonstrate and attain transition to practice by engaging and working closely with industry and emergency service providers

The final study publication is expected in early 2018. iCERT members interested in becoming part of this effort in an advisory capacity to the project should contact the Executive Director.

Text-to-911 Translation Project

Working in concert with the IJIS Institute and iCERT Board level company, Voiance, iCERT responded to a U.S. Department of Homeland Security (DHS) funding opportunity to develop and pilot a program for real-time translation of incoming and outgoing non-English texts in PSAPs. This effort is designed to accelerate the process of ensuring Text-to-911 service is available to the Limited English Proficiency (LEP) population. The project team is now developing protocols for new services to ensure that rapid, reliable, and secure translation of texts between a 911 operator and an LEP "texter" can be commercially available and built to a public safety standard.

While this effort originated with Voiance and iCERT, and is now a 911 Education Foundation (9EF) effort as well, a partnership was formed with the IJIS Institute to pursue this grant opportunity in order to include IJIS's standards test bed program Springboard. The partnership also allows the grant application to be submitted under IJIS, a current and highly respected DHS grant recipient. Committees have been formed and this effort is well underway, with an initial technical specification to be developed in 2017, and test location PSAP operations to begin thereafter.

The result of this program will be a standard for implementing text-to-911 to LEP populations as well as operational, business and training protocols that will ensure consistent nationwide implementation.

PLANNED ACTIVITIES

Pro Bono General Counsel & Quarterly Legal-Regulatory Brief

Exclusive to iCERT members, a quarterly brief delivered through email will be provided through iCERT's recently established pro bono General Counsel, Shulman Rogers, a major law firm headquartered in the Washington, DC area. The brief will include pertinent and timely information on legal and regulatory issues associated with emergency response technologies; and relevant rulings, court decisions and burgeoning practices of the agencies, legislatures and regulating bodies with authority over these public safety services. While the understandings provided in this regularly disseminated brief cannot be construed as client-based legal advice, they will offer iCERT members a level of insight into important guiding and undergirding matters that affect our industry.

National Forum on Public Safety and Community Development

In recent months, American urban areas have experienced a rise in tension pertaining to a particular form of civic interaction – police community relations. As members of the public assert their rights to freedom from potentially unwarranted enforcement actions, police, in turn, seek to fulfill their important and difficult mission of fostering and maintaining safe neighborhoods. These two factions are not in conflict when it comes to the sought-after end results. Both the general public and policing agencies want the same thing: safe, civil and thriving communities. Yet, conflict – in both its outright and veiled forms – has been a driving factor of late, and this ongoing tension deserves critical, engaged examination in order to ensure America's urban environments are vibrant areas of economic, creative and educational opportunity, with public safety as a prominent principle.

To address these pressing issues of urban transformation and community safety, the convening partners and supporting organizations of the *National Forum on Public Safety and Community Development* will bring together key leaders from the public and private sectors in April 2017 to discuss and examine burgeoning indicators of successful practices, essential elements of thriving and safe areas, and innovative uses of technologies as features of building these communities.

With public safety as a core impetus, and with a deliberate focus on police-community relations and the technologies that can help foster productive collaboration for safety and justice, this Forum will provide a unique set of answers to the many vexing questions regarding public safety and community development.

The event will be held in a dual-format setting, with approximately 50 attendees in-person with a remote broadcast of the event for widespread inclusion. This will be a sponsored event, with no attendee fee.

Convening Partners:

- iCERT
- Enterprise Community Partners
- IJIS Institute
- 911 Education Foundation

Further information will follow as planning continues.

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BECOME A MEMBER

You are just one person. Yours is just one company. What can one person do to safeguard the future of emergency communications?

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Joining iCERT means you're not alone. iCERT represents the best of the emergency communications industry, advocating for enhanced funding for 911, bringing leaders together to share visions of a safer, more secure world through better communications, studying the emergency communications arena and sharing expertise with other stakeholders.

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