Tuesday, August 31, 2021

SBC 2021 First Annual Member Awards Nomination

The Safer Buildings Coalition wishes to recognize outstanding member products and projects through a new juried evaluation.

About the Safe Inside Product and Project of the Year Awards Program

SBC's **Safe Inside Product of the Year** award recognizes new products in the in-building public safety communications market.

This program will provide SBC's audience with information about the top new product in their fields.

SBC's **Safe Inside Project of the Year** award recognizes outstanding projects in the in-building public safety communications market.

This program will spotlight projects for their impact, quality of workmanship, innovation, and contribution to reducing noise and interference.

2021 Program Schedule

- August 1: Entries open
- Sept 1: Entry deadline
- Sept 27th: Finalists announced @ SBC Member's Dinner
- October 25th: Winners notified
- Nov 10th: Winners Announced @ IWCE In-Building Forum

Rules:

1. Entries may be submitted by SBC Current Member Organizations only.
2. You may submit a Product, a Project, or both.
3. One entry per category per member organization.
4. Entries must be submitted on behalf of the original manufacturer or project system integrator, and not on behalf of another organization.
5. Entries will be screened for compliance to rules.
6. All entries that meet eligibility requirements are
7. All information requested must be provided. An incomplete form or a form providing misleading or false information will result in disqualification.
8. An authorized representative of the member organizaiton must complete the entry form verifying all information.
9. SBC will convene a cross-functional panel of its choosing to judge the entries.
10. Entry Fee: Waived for 2021

Eligibility requirements

Products entered into the 2021 program must meet the following criteria:

1. Products must specifically pertain to the in-building public safety market.
2. Products should demonstrate an innovation that furthers the mission of making buildings Safer Inside.
3. Products must have been made first available for purchase in the North American market between August 1, 2020, and August 1, 2021.
4. If the entry is a new version of a previously available product, the entry must represent a major modification or redesign of the product.
5. New versions of software must offer new capabilities and significant enhancements.
6. Products must be available for purchase in the United States.
   All information fields on the entry form are completed and accurate regarding the product and the manufacturer.

Projects entered into the 2021 program must meet the following criteria:

1. Projects must have been completed in the North American market between August 1, 2020, and August 1, 2021.
2. Projects must specifically pertain to the in-building public safety market.
3. Projects should demonstrate their impact, quality of workmanship, innovation, and contribution to reducing noise and interference.

How to Enter:

Use the form below to submit your entry(s).

Submitter Verification

- This information is necessary to ensure each Organization makes no more than one nomination per category

Name Mark Johnson

Email mjohnson@commdex.com

Your Organization	Commdex LLC
Your Title	Presale Opportunity Manager

Product Nomination

Name of Product	N/A
Date first available in the North American Market	Saturday, July 31, 2021
Product Description	N/A
Please describe the innovative nature of this product	N/A

Project Nomination

Name of Project	Fiber Distributed DAS System For Uranium Enrichment Facility At URENCO USA In Eunice, NM
Date completed in the North American Market	Thursday, December 31, 2020
Project Description	Motorola Solutions contracted Commdex to perform the design, installation, and configuration of an in-building communications system for the new Uranium Enrichment Facility (UEF) at the URENCO USA Facility located in Eunice, NM. The system consisted of a UHF Distributed Antenna System (DAS) to provide coverage in specified areas of the complex. The DAS is driven by a single head-end system that is directly connected to the nearby donor site and then distributes RF via fiber throughout the complex where RF Remote Optical Units (ROUs) will rebroadcast the RF signals. Implementing the new system into Urenco's facility required a comprehensive engineering approach addressing RF coverage, jurisdictional requirements, and installation. Our team addressed each of these issues and provided comprehensive design documentation submittals to the UEF team for review. Complete System Design: Commdex developed a complete engineered solution for all four buildings within the complex using the existing LMR site on the campus as the location for the central headend. The fiber headend was co-located with the existing UHF Radio System LMR site which was located approximately 1 mile away from the facility buildings. The headend equipment was connected directly to radio repeaters and then connected via fiber back to the facility and to the individual ROUs located throughout the various buildings. Installation Management: Commdex mobilized a DAS Field

Engineer to support the installation and commissioning of the system upon delivery of the equipment. Once installation was underway, our DAS Field Engineer monitored the installation progress to ensure that proper best practices are maintained for proper installation such as:

- Maintain proper coax bend radius
- Inspect coaxial cable connectors
- Proper ground kit installation
- Proper cable spacing

Upon completion of the installation process, the RF equipment was powered up and inspected to ensure all components are operating within specification. All remote units were programmed into the fiber head end and all frequencies and filter settings were set properly for the signal source. The Commdex DAS Field Engineer directed the UEF team through each piece of equipment to verify all these settings.

System Testing: Once the optimization process was complete, the Commdex DAS Field Engineer conducted an RF Coverage Test to validate that the coverage throughout the building met the specifications. This testing validated the predicted coverage from the iBwave design. The Coverage Acceptance Test Procedure (CATP) was based on the evaluation of SSI at the specified reliability level from the technical specifications and predicted design levels. The test process aligns with Telecommunications Industry Association (TIA) Telecommunications Systems Bulletin TSB-88 and corresponding NFPA and IFC testing procedures. The test verified the performance of the RF coverage of the new DAS system by evaluating the signal of test calls placed between a radio user inside of the building under test and a dispatch console. Received Signal Strength Indicators (RSSI) readings were also collected and compared against committed design specifications. A map of the buildings tested was provided showing test locations and RSSI values for all test locations.

Please describe the innovative nature of this project

A significant amount of the equipment inside the Urenco facility contains classified information and the Department of Energy (DOE) cyber security requirements dictate that copper cabling is not allowed to be in close proximity to these classified secure data lines. This prohibited the implementation of a traditional DAS utilizing a passive network comprised of coax cable. Commdex thus proposed an innovative solution utilizing a fiber distributed system whereby fiber ROUs would be located immediately adjacent to RF antennas throughout the facility for propagation of signal, thereby significantly minimizing the amount of coax in use. Commdex’s design solution provided for 36” or less of coax between each ROU and antenna, with all other signal being transmitted throughout the facility via fiber. The solution was reviewed and approved by the DOE representative for implementation.

An additional challenge to implementation of the Urenco solution was the development of the coverage prediction models within the facility. The facility buildings are full to near capacity with the secure data equipment and other heavy machinery, however the floor plans provided by Urenco depicted large empty areas. Commdex typically utilizes supplied building floorplans to create 3D models of each building using iBwave to model indoor coverage. iBwave is an industry-standard tool for DAS design and coverage modelling that utilizes proprietary algorithms to predict the effect of various building materials and internal objects on coverage propagation. Due to the fact that the Urenco plant is a secure classified facility, the customer was prohibited from providing any details on the building interiors on the floor plans, thus preventing Commdex from using this information for the propagation modeling. To overcome this issue, Commdex devised a unique solution and conducted an interior clutter analysis by performing continuous wave (CW) RF testing throughout the facility to record the RF propagation impact of the internal machinery. The information gathered was used successfully to import into iBwave and properly model the RF coverage design to plan the distribution and placement of ROUs and antennas.

I attest that I am authorized to submit on behalf of my organization

Attest