News Release

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Iowa PBS Upgrades Hub and Spoke Encoding Solution from Hitachi Kokusai Electric Comark

SOUTHWICK, MA, April 4, 2023 – Hitachi Kokusai Electric Comark LLC (hereinafter "COMARK"), a manufacturer and supplier of DTV transmitters, encoding systems, and associated field services for 50 years, has announced that Iowa PBS has contracted with COMARK for a complete upgrade to their central cast ATSC Encoding System.

Iowa PBS, which operates 9 DTV transmitters providing coverage to all of the state, contracted with Comark Digital Services (CDS) for this upgrade. The contract included upgrading Iowa PBS's legacy ATSC program encoders for their hub and spoke architecture in addition to a full QoS/QoE monitoring solution. The software-based encoding solution supports ATSC 1.0 now and ATSC 3.0 when they are ready to go live. CDS was responsible for program management and for supplying all the materials for the entire project, as well as the factory integration testing, on-site commissioning, and system training.

The software encoding solution provided by CDS is based on TITAN Live, which is extremely flexible and capable of providing simultaneous MPEG-2, H.264, HEVC, as well as HLS output formats. The encoder solution installed at the hub was deployed in a 1+1 redundant configuration with AMS management of the redundancy. The architecture uses re-multiplexing to provide dedicated branded feeds to each of the Iowa PBS stations with the specific ATSC signaling / PSIP data. For added security, CDS provided firewalls at the hub and each of the remote spoke DTV transmitter sites. The existing fiber network connectivity was reused between the hub and the remote spoke transmitter sites.

In addition to the encoding upgrade at the Iowa PBS hub, CDS provided equipment at several of Iowa PBS's spoke DTV station locations. For local test and remote monitoring, CDS deployed EdgeProbe Advanced 3, which monitor IP inputs and RF outputs to the transmitters. EdgeProbe also returns a TSoIP video sample back to the hub for confidence monitoring. Additionally, transport stream converters (TSoIP to SMPTE-310M) were supplied since the system needed to interface with existing legacy DTV transmitters.

CDS provided a complete confidence monitoring solution at the hub site for Iowa PBS. Each remote spoke transmitter site returns confidence signals from the EdgeProbe that are collected and monitored via StreamProbe QoS and QoE. StreamProbe provides at-a-glance (live thumbnail mosaic) monitoring as well as ETR-101-290 monitoring. CDS also deployed GlobalViewer for the centralized management including live supervision and analytics reporting of the DTV signals from each of the transmitter sites.

To prepare Iowa PBS for their future migration to ATSC 3.0, the hub was equipped with multiple MediaCast and SmartGate units. MediaCast processes live HEVC-DASH and NRT streams (datacasting, ESG, AEA) and is responsible for generating the ROUTE/MMTP signaling tables (SLT and SLS). SmartGate follows MediaCast and is the broadcast gateway that generates the STLTP which ultimately feeds the ATSC 3.0 transmitter via an IP connection. SmartGate defines the ATSC 3.0 services via PLP's. Both software products were deployed on a single server.

For the final portion of this project, CDS was responsible for upgrading an existing 7GHz STL between the Iowa PBS hub site and the KDIN transmitter site. The new IPLink 3.0 system provides high capacity, full duplex operation that supports ASI and TSoIP and is ATSC 3.0 ready for future use.

Comark Digital Services (CDS) was re-launched in 2018 to assist customers with navigating the migration to ATSC 3.0. COMARK has been very active in the North American broadcast DTV market, forming partnerships and building a fully integrated end-to-end ecosystem for ATSC 1.0 & 3.0 solutions. CDS currently operates a full laboratory for equipment testing, integration, and customer demonstrations, and provides market-leading solutions with the best-of-breed technology and system expertise to help customers jump into the exciting possibilities offered by ATSC 3.0.

"CDS has positioned to integrate cutting edge DTV encoding solutions that support both ATSC 1.0 today as well as ATSC 3.0 tomorrow," states Joe Turbolski, VP of Sales and Marketing of COMARK. "Our team worked closely with the staff at Iowa PBS on many aspects of this project to bring them a solution that met their current and future system needs and we are tremendously pleased to be part of this essential project."

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About Hitachi Kokusai Electric Comark LLC:

For over 50 years COMARK has been synonymous with broadcast expertise and innovation. A trusted partner to the world's leading broadcasters, COMARK has pioneered many developments that have shaped the industry, leading innovation in IOT & MSDC-IOT technology, transistorized solid-state technology, Digital Adaptive Pre-correction (DAP), and also winning multiple Emmy® Awards; and gaining numerous patents in technologies that have become fundamental to broadcasting. COMARK is now building on this great heritage with the release of an entirely new range of transmission products for terrestrial television broadcasting, and state-of-the-art products for scientific/industrial RF applications. With thousands of active COMARK transmission systems deployed worldwide and a global support presence, COMARK plans to continue to develop technologies for the future, with efficient performance initiatives that improve coverage and save power.

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Information about products from Hitachi-Comark is available at www.comarktv.com.

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