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WORK Microwave Partners With C2m Solutions to Improve QoS and QoE for Satellite Services

Integration Between WORK Microwave's AT-60 Media Modulator and C2m Solutions' LiveTSAFT Monitoring Probe Leads to Quicker Error Resolution and Cost Savings

HOLZKIRCHEN, Germany — Sept. 15, 2017 — WORK Microwave, a leading European manufacturer of advanced satellite communications equipment, today announced a new partnership with C2m Solutions that allows satellite and other content operators to check the quality of video and audio streams in real time, even at the individual transmission stage. Integration between WORK Microwave's AT-60 media modulator and the LiveTSAFT monitoring probe from C2m Solutions enables operators to receive alerts on events happening on each multiplex, without the need for separate probe equipment per multiplex. Integrating the probe inside the modulator optimizes space, energy consumption, and cooling requirements, while enabling satellite operators to deliver a superior quality of service (QoS) and quality of experience (QoE) to viewers.

"C2m Solutions has grown successfully over the last few years, delivering state-of-the-art software probes, as standalone products, to customers including the top 10 operators in France and Europe. We are always looking for new ways to improve our technology and match the requirements of customers, and this collaboration with WORK Microwave is the perfect opportunity to do that," said JF Jézéquel, co-president at C2m Solutions. "We selected WORK Microwave as our technology partner due to their well-known RF quality and strong footprint in the TV industry."

Today, it is critical that satellite operators have the ability to instantaneously validate the integrity of transmission, signaling, metadata, and content as well as audio track issues. Failure to identify and diagnose broadcast transmission issues typically results in poor QoE ratings for viewers, which can lead to churn, penalties stipulated in B2B carriage contracts, and loss of advertising revenues. Integrating a probe directly into the modulator helps operators ensure that

the quality of the signal is correct at the output of the modulator, simplifying management of complex routing scenarios in teleports or large uplink stations.

C2m Solutions' LiveTSAFT is a software-based analysis and error-detection probe that monitors MPEG-2 transport streams in real time. Using the probe, satellite operators can effectively manage QoE and QoS at every critical point of the IP network, analyzing all aspects of the stream, from the actual bandwidth per service to the presence of subtitles, multilanguage audio, different DVB tables, black screen, and more. The probe sends information that is stored in a database, giving operators the ability to calculate reports and statistics on the global quality of their service. Operators are alerted about video and audio issues in real time and can determine, through a centralized user interface, where the error exists and correct it as soon as possible.

WORK Microwave's AT-60 modulator is part of the company's A-Series modem platform, which provides a flexible DVB-S2X all-IP infrastructure. The AT-60 can be operated for both networking and streaming. A flexible license model for the AT-60 allows cost-effective operation in various transmission applications such as video contribution and distribution, VSAT hubs, and DTH uplinks.

"Today, consumers are more and more aware of the technical video quality of the programs they watch. For operators, it is necessary to monitor this quality and correct defects as quickly as possible," said Joerg Rockstroh, director, digital products at WORK Microwave. "The benefit of this partnership is that we are able to provide satellite operators with a unified solution for satellite modulation, video and audio analytics, and error detection to boost QoE."

C2m will demonstrate its solutions at IBC2017, Sept. 15-19 in Amsterdam at stand 2.B39.

WORK Microwave will demonstrate its AT-60 modulator at IBC2017 at stand 5.A77.

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About C2m and C2m Solutions (<http://challenge2media.com>)

C2m Group is a consultancy/engineering firm leader in the digital media market. It offers a complete set of innovative services and solutions:

- **C2m Agency:** consultancy missions (strategic, marketing, technical) and technical assistance,
- **C2m Talents:** recruitment and head hunter company,
- **C2m Starter:** dedicated to startups,

- And finally, **C2m Solutions**, which develops audio/video quality monitoring software for the digital media and broadcast industry. Our 100% software solutions allow complete analysis of audio/video streams and accurate reports and statistics. Our probes offer unmatched speed and performance on the quality control market.

About WORK Microwave (www.work-microwave.com)

Headquartered in Holzkirchen (near Munich), Germany, and comprised of four operating divisions — Satellite Communication, Navigation Simulators, Defense Electronics, and Sensors and Measurement — WORK Microwave leverages over 30 years of experience to anticipate market needs and apply an innovative and creative approach to the development of frequency converters, DVB-S2/S2X equipment, and other digital signal processing technologies while maintaining the highest standards for quality, reliability, and performance.

WORK Microwave's Satellite Communication division develops and manufactures high-performance, advanced satellite communications equipment for telecommunications companies, broadcasters, integrators, and government organizations that are operating satellite earth stations, satellite news gathering vehicles, fly-aways, and other mobile or portable satellite communication solutions.

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Link to Word Doc: www.202comms.com/WorkMicrowave/170915WORKMW.docx

Photo Link: www.202comms.com/WorkMicrowave/WORKMW-A-Series_C2m.jpg

Photo Caption: WORK Microwave's AX-60 IP Modem With Integrated LiveTSAFT Probe

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