



IEEE

Broadcast Technology

The technologies to deliver information and entertainment
to audiences worldwide, at home and on the go

*Is IP connectivity now ready
to replace SDI in television
facilities? ST 2110 adopters weigh
in with their views. – p. 8*

President's Message

Ralph Hogan, BTS President



This will be my last “President’s Message” as the Broadcast Technology Society’s president. My term will close on Dec. 31, 2022, and I will be succeeded by president-elect Paul Shulins. The last couple of years have been challenging for BTS with Covid-19 travel restrictions, canceled conferences, loss of revenue from the IBC, and moving to a virtual meeting and conference environ-

ment. Most of that is behind us now, and we are starting to see travel to conferences and meetings. The IBC is beginning to recover financially, and the industry is scheduling more and more face-to-face events. Many companies are also re-evaluating their travel policies, but still have travel restrictions in place. We will continue to see hybrid events moving forward as this has proven to allow global communications to grow at a reduced travel expense and the ability to include greater participation from a larger, more diverse geographic area.

BTS is a member and part owner of IBC, ATSC, Radio DNS, and 5G-MAG, representing our global technology involvement. We participate in standards development and industry collaboration to further the future of our partners. During the past two years, we have participated in the following events:

- ABU DBS 2021
- NAB Show 2021
- IBC
- 5G FED Conference
- 18th European Digital Forum
- Broadcast Asia

To support our Young Professionals, BTS has offered a number of events:

- The 2022 BTS Graduate Student Workshop, Oct. 18, 2022, a virtual event, hosted by Rafael Sotelo
- The 2022 IEEE BTS YP Workshop hosted by the University of Basque County, June 14, 2022
- The University YP Webinar, Broadcasting: The Past and the Future in the Connected World, April 12, 2021, with presenters Peter Siebert, broadcast industry advisor, and Madeleine Noland, president of ATSC
- YP Initiative Education webinar “Broadcasting: The Past and The Future in a Connected World,” Aug. 19, 2021

The Distinguished Lecturer program has also been active with these DL virtual events:

- Multi Sensorial Media Broadcasting, May 3, 2022, with Maurizio Murrone presenting
- Commercial and Technical Aspects of Next Generation Video Coding (NGVC) Technologies for Broadcast and Broadband, March 24, 2022, with Peter Sibert presenting
- “Can I Really Protect My Broadcast Station From Ransomware?” with Wayne Pecena presenting
- “Power-based Non-Orthogonal Multiplexing in Next Generation TV & 5G” with Dr. Liang Zhang presenting

I am proud of the work that the Society has done over the past two years. We have had an excellent ExCom who has worked diligently with BTS staff between AdCom meetings to adjust to the changing times and challenges that have cropped up. I look forward to 2023 and how the industry will continue to come back and grow in the world’s economy.

Ralph Hogan
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Cover: A portion of the IP-based broadcast facility used to air the 2022 FIFA World Cup coverage.
Cover photo courtesy of Fox Sports

From The Editor

Celebration Of Two (Widely-Spaced) Broadcasting Milestones And Some Musings About Integrated Circuits

By James E. O'Neal, Editor-in-Chief,
BTS Life Member



As we near the close of 2022, it's very encouraging to note the progress that has been made in past year or so in the rollout of ATSC 3.0 or "NextGen TV" in the United States. The number of markets with 3.0 service is increasing by leaps and bounds, with signals expected to be available in more than 70 television markets by year's end, allowing most of the country's television audiences to experience the manifold benefits that come with the new DTV transmission standard. Advancing this milestone even further is the news that Hisense has now joined LG Electronics, Samsung and Sony in manufacturing NextGen-capable receivers. More good news on this front comes from the Consumer Technology Association, which reports that some 4.5 million of these new sets are expected to make it into U.S. homes before 2022 is over. Of course, the transition to NextGen TV is stymied by lack of spectrum that has necessitated agreements between broadcasters in most every market to establish a "lighthouse" station and transfer program streams around accordingly. This is an awkward and kludgy arrangement at best, but given the loss of TV spectrum to the broadband wireless providers, it's the best that can be done, and it is working in terms of delivering 3.0 to potential viewers (and adopters). However,

there are some suggestions within the industry now perhaps a line in the sand needs to be drawn as to ending this hybrid 1.0/3.0 transmission situation altogether. The FCC, in its official blessing to the airing 3.0 signals a few years ago, did not specify a definite date for sunsetting the two-decade-old U.S. ATSC 1.0 "mainstream" over-the-air DTV delivery standard. With the encouraging news about NextGen TV market availability and set penetration, perhaps it's now time give some serious thought to set a date for pulling the big 1.0 shutoff switch.

That Other TV Milestone

Recently, I've examined several very significant broadcasting historical "firsts" on this page, and, as I'm writing this near the end of October, can't ignore an early-November event from 86 years ago. This is, of course, the startup of the world's first regularly scheduled "high-definition" television broadcasts, by an organization that's still very much with us, the British Broadcasting Corporation. The Germans were broadcasting television on a fairly regular basis before the BBC got into the act, but were anything but HD, as a 180-line standard was employed. In truth, the "Beeb" went on the air Nov. 2, 1936 with a 240-line service, but this was in the name of "fair play" to accommodate the two British television contenders, Baird Television (John Logie Baird's company) and EMI (which had strong ties to the Marconi Wireless Telegraph Company). A coin toss placed Baird at the historical start of scheduled BBC television broadcasting, with plans to alternate between his 240-line mechanically-scanned system



As part of readying the Alexandra Palace space suitable for television in 1936, the BBC had this mast erected at one end of the large building. The original low-band VHF "sound and vision aerials" were removed long ago, but the tower remains as an historical landmark.