Converging on the Future of Telecommunications

By: Chris Bastian

More than ever, the telecommunications industry is poised to implement—for an ever-widening audience—the needed structural enhancements that were highlighted by the COVID-19 pandemic. Key messages have become apparent that will push the industry to accelerate beyond the crisis. These include a renewed focus on the customer, new strategies to converge end-to-end service delivery, and repositioning wireless networks as part of an expanded business model.

Each of these topics, and many more, were the focus of the largest cable telecommunications and technology trade show in the Americas from October 11-14. The SCTE® (Society of Cable Telecommunications Engineers) Cable-Tec Expo® provided an unparalleled and international virtual experience to bring the community together safely. As a not-for-profit professional association for the advancement of technology, standards, and workforce education related to cable telecommunications engineering, SCTE cultivates technical innovation, training, certification, and standards for corporate and individual members.

Consolidation and collaboration to generate innovation

SCTE hosted Expo for the first time as a subsidiary of CableLabs®, the leading innovation and R&D lab for the cable industry. Together, the two organizations have successfully aligned investment, innovation, and resources to increase industry collaboration and accelerate progress toward 10G by streamlining the cable technology innovation cycle—from the very early research and ideation stage all the way to mass market deployment.

As anyone in telecommunications knows, the current pace of innovation requires the industry to move more quickly than ever before. By syncing and closely managing innovation, specifications, standards, training, and deployment efforts, SCTE and CableLabs are creating new opportunities for content diversity and distribution.

As the only ANSI-accredited platform for developing technical standards and operating practices supporting cable telecommunications, SCTE made a huge step this year in releasing the GAP (Generic Access Platform) standards for nodes. One of the goals for GAP is to help direct the industry toward a standard, modularized, and evolvable multi-access technology platform. This suite of standards will increase the agility and manageability of HFC nodes, as well as provide the foundation for multi-access edge computing (MEC) and connectivity for wireless and mobility access.

The direction of SCTE's work for standards and excellence in the industry is being guided and supported by a new board that was appointed earlier this year. At its head is chairwoman Stephanie Mitchko-Beale, executive vice president and chief technology officer, Charter Communications. The newly structured SCTE board of directors expects to build upon the crucial work the previous members set in place and set the Society on a strong course for the next 50 years.

Reshaping the learning and development experience

This year's Workplace of the Future/Workforce Operations and Learning and Development Track included a panel discussion on Executing in Today's Digital Realms: New Tools in Remote Learning, Customer Journeys and Construction Know-How. With such emphasis on the technology that is revolutionizing today's telecommunications world, Expo equipped attendees with tools and tactics to improve their customers' lives and advance their businesses.

For example, training programs will continue to adapt and evolve to provide content that engages the modern learner, through interactive technology for a hands-on and safe way to learn.

What SCTE has learned in its own research is that leveraging a 3D-learning environment can contribute to a higher score for learners.

The L&D leadership team recognizes that the most important element for any organization seeking to keep its workforce competitive and informed is to strategize an L&D program that incorporates the latest technological advancements and understands how it can leverage them as external influences. Emphasizing its importance to the industry and all of its members, L&D held a central role at this year's Expo with the theme to "Unleash the Power of Limitless Learning," and was chaired by Nancy Murphy, executive director, Learning & Workforce Capability, Cox Communications.

Learning experts discussed how the pandemic has reshaped learning, particularly the use of technology, and how organizations can pivot to remain relevant and deliver emerging technologies to benefit employees and customers.

Dr. Jim Kirkpatrick, senior consultant with Kirkpatrick Partners and renowned as a visionary and an expert in training evaluation and as the creator of the New World Kirkpatrick Model, shared how to structure initiatives so they enhance on-the-job performance and impact the bottom line. Julie Hiipakka, vice president, Learning & Leadership Research Leader for Deloitte Consulting, delivered the keynote and discussed how businesses can connect learning, talent, and organizational change efforts to organizational goals and strategy.

The panels and professionals emphasized the importance of L&D to the industry and to society for facilitating high-performing teams, measurable results, and satisfied customers and employees.

Unleashing the power of connectivity

The collaborative innovation that was on display at Cable-Tec Expo truly demonstrates that the industry is successfully implementing the power of limitless connectivity. What the entire telecommunications industry has seen over the past couple of years is that cable is no longer a single technology. Some member companies deploy PON; others are focused on HFC and expanding work on DOCSIS® 4.0 technology, while other providers have added mobile services in their markets. The point is that cable technology is generating more innovation than ever before.

Today's evolutionary focus is on cable and mobile convergence as one of the biggest technology trends in the telecommunications industry. Although cable operators began converging networks in the early 2000s, the breakthrough approach is to look at convergence holistically. By converging end-to-end service delivery, operators can focus on improving the customer experience, while also standardizing and simplifying operations and maintenance support and improving service reliability.

Fourteen papers were presented on convergence topics, as well as over 100 other papers on topics such as workforce transformation, energy management, and network security. Two

workshops focused on the technology, with CableLabs moderating a session on "Is Fiber the Key to Transport Convergence?" while Charter moderated a session about "Convergence: HFC, Meet Your New Bestie, 5G!" One of the objectives for current convergence activities is to apply emerging technologies such as network function virtualization across the converged architecture, regardless of access flows, while delivering a seamless service experience to customers.

The virtual experience did not mean the lessons and insights were any less impactful. All attendees were able to connect with the experts leading the transformation of connectivity and convergence. The 2021 online program facilitated an in-depth approach to the ideation for improving consumers' lives and generating outstanding business results, through a rich selection of live content, including 98 thought leadership sessions, over 200 speakers, and 53 Fall Technical Forum Workshops that covered a wealth of topics.

Ideation to bring innovation to life

At CableLabs and SCTE, ideation and production realization are working together to accelerate their ability to bring products and services to the market. The energy for developing the sessions and workshops on display at this year's Cable-Tec Expo is an indication of where the industry is today and how it is perceived. The keynote speakers represented the top echelons of businesses where technology is applied to benefit society.Inaugurating the general session was **Kevin Hart**, executive vice president and chief product and technology officer at Cox Communications, who led this year's Fall Technical and Program Committee that selected the 123 papers that were presented during Expo. He was joined by powerhouse technology executives whose organizations play a key role in moving the industry forward: Wendell Weeks, Corning's chairman and CEO, and Eric S. Yuan, the CEO and founder of Zoom Video Communications, Inc. Their insights help us as an industry to build on key pandemic-era learnings and continuously move toward revolutionizing the way we live, work, learn and play.

A unique immersive video experience depicted how SCTE, CableLabs, and all their partners are working every day on "Unlocking the Limitless Network." SCTE demonstrated through its people and technology that it makes big ideas possible, clearly conveying the message that the essence of SCTE is to *develop, engage, and deploy*.

SCTE and CableLabs committed to continue to challenge its membership and innovators to develop new solutions. A great example of this is the 10G Challenge, which Phil McKinney, CableLabs CEO, and Michael Powell, former FCC chairman and NCTA CEO, launched during Expo. The purpose of the 10G Challenge is to inspire innovators to leverage the emerging 10G network. This is an initiative that really highlights how the industry is talking about 10G and the applications that are riding on it and will continue to grow and evolve and build.

Planning for 2022 is already underway with the SCTE team gathering insights to create an exceptional SCTE **Cable-Tec Expo 2022 hybrid event in Philadelphia, PA, September 19-22**. We

look forward to working with our show chair Comcast President and CEO David Watson to produce what we expect to be an increasingly international event to elevate the industry.