

Success of CTSoc Over the Last Four Years (2019–2022): Transformation From Obscurity to Prominence Moving CTSoc Forward Onto the International Stage

Wahab Almuhtadi

Algonquin College/Carleton University

■ **I AM EXTREMELY** grateful for the opportunity to have served four straight years with devotion and dedication as the 26th president of the IEEE Consumer Technology Society (CTSoc) [formerly IEEE Consumer Electronics Society (CES)]; see Figure 1. It was truly an honor to have served with a devoted group of officers on the Executive Committee, the Board of Governors, the Standing Board and Committees, and countless



FIGURE 1. Prof. Wahab Almuhtadi.

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numbers of volunteers, industry, and academic leaders, plus IEEE leadership.

The consumer technology arena is always changing and our Society needs to always be ahead to remain the leading technical, practical, and multidisciplinary society. Last year, CTSoc celebrated its 40th anniversary [59th since first being part of IEEE Professional Technical Group Broadcast and Television Receivers—PTGBTR, and also 82 years as a part of IRE Professional Group on Broadcast and Television Receivers (IRE PGBTR)]. I am proud of the advancements we made in keeping our Society as a pillar in consumer technologies and moving the society on the global stage.

Though I have completed my term, I remain committed to CTSoc, and IEEE service in general, beyond my more than 29 years of proven accomplishments having served in several posts throughout all IEEE levels (Institute, Region, Society, Section, Chapter, and Student Branch).

In January 2019, when I started my CESoc Presidency, I made the following commitments: Increase Visibility and Value of our Society, Engage and Help our Society Members Thrive, and Ensure our Society's Long-Term Success (*for more details, refer to the President's Message "Overcoming Challenges and Reaching Common Objectives for Our Society's Longevity," IEEE Consumer Electronics Magazine, Year: 2019 | Volume: 8, Issue: 1*).

It is easy to repeat and keep the ways, structure, and traditions of the past and achieve the same comfortable customary outcomes. Reflecting on my commitments, the focus of this article will be on the goals completed and success achieved under my leadership on the following activities that led CTSoc to transform and move forward:

Financials, Society Name Change, New Logo, Field of Interest, Mission Statement, Vision Statement, New Website, Governing Documents, Technical Activities, Conferences, Publications, Membership Development, Education, Industry & Standards, Operations & Planning, History, Awards, Sister Societies, Global Stage.

CTSOC FINANCIALS

The key to success is having a sustainable financial position to keep the Society viable for running its operation and activities. When I took over in 2019, CTSoc had an approx. US \$300,000 accumulated deficit, and our Society had been on

the IEEE Financial Watchlist since 2017. So in 2019, actions and measures were taken to improve our finances by reducing expenditures and increasing revenues from our portfolios—such as conferences, publications, sponsorship/patronage, and other services. We graduated from the IEEE Watchlist in 2020, and we achieved in 2021 and 2022 a US \$600,000 to US \$800,000 Net surplus/year. Success came from eliminating unproductive expenses and focusing on expenses that provided a return to the Society and benefits to its members and the general public that ensure great strategic continuity for the future. CTSoc is currently in a healthier financial status with improved structure and services.

SOCIETY NAME CHANGE

It is evident that CTSoc supports a dynamically changing broad technology area. However, the term “Consumer Electronics” in the Society's name was too limiting and needed to reflect the reality of consumer technologies and the dynamic changes, adaptability, and transformation of the industry. Perception of our Society was that it is just for hardware and circuits only. In response to this, our Society needed a name change. On 12–13 January 2019, in Las Vegas, Nevada, the Society's BoG had its two-day face-to-face meeting, and a motion was put forward to change the name of our Society from “**IEEE Consumer Electronics Society (CES)**” to “**IEEE Consumer Technology Society (CTSoc)**.” The motion was unanimously supported and passed by the BoG. This was followed by a message sent to the attention of all members of the Society for feedback and comments; only support and no objection was received. Next, we filed a notice for the name change with the IEEE Technical Activities Board (TAB) that was forwarded to all Presidents of the Societies and Councils. I presented the case to change our Society name for TAB approval at the Presidents' Forum on 21 June 2019 and also at the TAB Meetings on 21–22 June 2019 in Atlanta, Georgia. This passed unanimously at both the Presidents' Forum and TAB meetings. The case then moved to the highest board of IEEE—the “Board of Directors (BoD)” —for approval. The IEEE BoD approved the name change at its meeting on 26 September 2019, and the name change became effective on 1 January 2021. After that, IEEE and IEEE staff needed time to implement the name change in the IEEE databases for financials, conferences, publications, products, services, ITS, websites, legal, branding, membership renewal, publicity,



FIGURE 2. IEEE Consumer Electronics Society Logo (on 28 September 2020 by the new CTSoc logo).

... etc. However, from that date on, our Society was officially called “**IEEE Consumer Technology Society**” with the abbreviation “**CTSoc**.”

Congratulations to all our Society members, affiliates, and volunteers on this transformational step. The Society’s field of interest has become highly multidisciplinary over the years, and the new name reflects the fast-changing industry and emerging technologies. CTSoc will continue to be an important source of information on new and emerging technologies.

NEW LOGO

We are living in the world of smart intelligent devices and systems. The logo is as important as the name and had to convey the Society’s essence. Due to the Society name change, the previous dated logo (Figure 2) had to be replaced with a new one. Several new designs were created, reviewed, and considered, along with several consultations with the CTSoc BoG until a logo had been selected that best reflects the nature of our Society and the name change. Several conference call meetings and discussions were held between CTSoc and IEEE Legal, Branding, and Marketing teams until the new logo design was approved by IEEE on 28



FIGURE 3. IEEE Consumer Technology Society Logo was approved on 28 September 2020 by IEEE BoD.



FIGURE 4. Full set of the approved CTSoc logos format versions needed for digital and print applications.

September 2020 (see Figure 3, the officially approved CTSoc logo), and registered with the United States Patent and Trademark Office (USPTO). Figure 4 shows a full set of the CTSoc logos format versions needed for digital and print applications, including imprint on premium items or giveaways of some kind.

The logo represents “Human Smart Consumer Devices or Systems, plus Interaction and Synergy.” It is the user’s interaction with technology and a view to better understand and improve compatibility plus interoperability. To build this trust for interacting with technology from the user’s point of view, it requires a deep understanding of both human attitudes and technology. The humanized content includes the following:

- 1) Human-machine interaction and user experience.
- 2) Machine learning, deep learning, and AI in smart devices.
- 3) Virtual reality, augmented reality, artificial reality (touchless devices technology).
- 4) Smart audio/video system and facial precognition.
- 5) Smartphones and mobile devices.
- 6) Smart sensors and wearable devices.

CTSOC FIELD OF INTEREST

The previous CTSoc Field of Interest statement was: “*The field of interest of the Consumer Technology Society is engineering and research aspects of the theory, design, construction, manufacture or end use of mass-market electronics, systems, software and services for consumers.*”

Defining the Society's focus areas was a pivotal exercise in its transformation and in gaining the needed momentous support. Its field of interest encompasses hardware, software, and firmware technologies, seemingly overlapping those of the other 38 IEEE Societies. However, the distinctive difference between CTSoc and these other societies is that CTSoc brings technologies to the mass consumer market, and advancement of technologies is opening the scope more for joint disciplines. Describing a society's FoI, as with the name change, is a stepped process in IEEE to ensure clear society accountabilities, and CTSoc needed to reflect its purpose with a timeless FoI; our Society could not keep changing the FoI as industry and research continuously and rapidly change consumer technologies.

Thus, CTSoc sent its Field of Interest description on 21 September 2020 to all IEEE Society/Council Presidents for comments by 12 October 2020. On 20 November 2020, the motion to accept CTSoc Field of Interest statement was presented at the IEEE Society/Council Presidents' Forum and was voted at the IEEE Technical Activities Board meeting that day. The vote passed and CTSoc new Field of Interest became: **"The field of interest of the Consumer Technology Society is the interdisciplinary technologies, applications, manufacturing, and standards for products, services, systems, and architectures for consumers."**

CTSOC MISSION STATEMENT

After lengthy consultations, discussions with the BoG, the Executives, and the membership, and then voting by the BoG, we adopted the new mission statement: *"We innovate and bring consumer technologies to life."*

CTSoc is the leading forum for the global technical exchange of engineering and scientific information on advancements in consumer technologies for the betterment of humanity, and for the professional development of its members. The value it adds is reflected in its Conferences, Publications, Technical and Educational Activities, Industry Activities and Standards.

CTSOC VISION STATEMENT

Similarly after lengthy consultations, discussions, and voting, we adopted the new vision statement: *"The IEEE Consumer Technology Society (CTSoc) as a global leader inspires research,*

development, and deployment of cutting-edge technologies for consumer products for the advancement and benefit of humanity."

NEW WEBSITE

A nice and professional website that is intuitive to navigate and has current information will make it the go-to place for useful resources on everything about your Society. In September 2020, a new CTSoc website was designed and published <https://ctsoc.ieee.org> suitable for stationary and mobile platforms and intended to serve the members, profession, industry, academia, and general public.

CTSOC GOVERNING DOCUMENTS

The governing documents of the Society had not been updated since 2013 for the Constitution, since 2015 for the Bylaws, and since 2014 for the operations (policies and procedures) manual. Due to the Society's restructuring and reorganization, and establishment of new Standing Boards and Committees to increase the Society's activities, the Society governing documents had to be updated to reflect all these reformations. It was imperative that we ensured the process of updating the governing documents was on track with the effective date of the name change. We completed and received CTSoc BoG approval for the new CTSoc governing documents near the same time: CTSoc Constitution, CTSoc Bylaws, CTSoc BoG, and CTSoc Operations Manual (Policies and Procedures, P&Ps).

A summary of the improved CTSoc structure and offerings follows that will hopefully also make you a proud member!

CTSOC TECHNICAL COMMITTEES

Though CTSoc is a technical society, it had no technical oversight body. We needed to increase professional development activities to aid members in sustaining their professional career. Thus, another major first time foundational establishment for our Society were 15 new technical committees (TC) that provide support to conferences, publications, technical, and educational activities. These committees are quickly staying current and adapting to the dynamic changes in industry and academia. Our committees as of this writing are: Application-Specific CE for Smart Cities (SMC); Audio/Video Systems

and Signal Processing (AVS); Automotive CE Applications (CEA); Consumer Communications Networks and Connectivity (CCN); Consumer Power and Energy (CPE); Consumer Systems for Healthcare and Wellbeing (CSH); Entertainment and Gaming (ENT); Human–Machine Interaction and User Experience (HMI); Internet of Things, Internet of Everywhere and Edge Computing (IOT); Machine learning, Deep learning and AI in CE (MDA); Quantum in Consumer Technology (QCT); Security and Privacy of CE Hardware and Software Systems (SPC); Sensors and Actuators (SEA); Smartphone and Mobile Device Technologies (MDT); Virtual Reality, Augmented Reality and Metaverse (VAM)).

Back when I started the creation of the TCs in September 2019, we established 14 TCs, and in 2021 we established QCT as the 15th TC. In 2020, we created the position of VP-Technical Activities and established the Technical Committees Board to facilitate these TCs per the By-laws and Policies & Procedures that were being drafted (refer to article “Establishing the Technical Activities and Technical Committees of IEEE Consumer Technology Society” W. Almuhtadi; F. Lamberti, IEEE Consumer Electronics Magazine, Year: 2022, Volume: 11, Issue: 4).

The responsibilities of the TCs are as follows:

- 1) To support Society’s technical activities in the areas of conferences, publications, standards, education, and history.
- 2) To investigate, evaluate, promulgate, and foster current and emerging technologies and applications of interest to the Society.
- 3) To create additional TCs for technologies of interest to the Society and conduct periodic and special technical meetings as directed by the BoG.
- 4) To support the development of new cross-cutting initiatives in collaboration with other TCs of the Society, and, as appropriate, with other IEEE Society/Council Technical Committees and IEEE organizational units.
- 5) To define new areas of technology focus and encourage the formation of new initiatives through the Society Future Directions Committee.

The TC members get the chance to serve on conference organizing committees, editorial boards, and become distinguished lecturers, to name a few.

To stay current or join a TC, visit <https://ctsoc.ieee.org/technical/technical-committees.html>

IEEE DIGITAL REALITY TECHNICAL COMMUNITY (DRTC)

IEEE Consumer Technology Society (CTSoc) was the main player in the IEEE Digital Reality Initiative (DRI)—(2019–2022), an initiative under IEEE Future Directions. This became the “Digital Reality Technical Community,” and CTSoc signed the MOU in December 2022.

CTSoc is leading the IEEE Digital Reality Technical Community (DRTC) with a focus on the Metaverse to foster and support Digital Transformation. This includes AI/ML, AR, VR, . . . XR, Digital Twins (incl. Cognitive, Personal Digital Twins), Massive Distributed Intelligence, and Expanding into the Metaverse. All these topics are in rapid evolution, requiring research from both academia and industry in lively academic initiatives commensurate with strong industry interest. There is impact on standardization and regulation, plus immense societal and ethical issues to be resolved.

Overall, CTSoc worked to enhance and foster our relevance to emerging technologies while searching and exploring new technologies to embrace and promote the services provided by our future initiatives, conferences, publications, and educational programs.

CTSOC INTERNATIONAL CONFERENCES

CTSoc conferences are a chance for members and nonmembers to interact, meet leaders in industry, government, and academia, learn and share their research and experiences, and demonstrate their corporate leadership in consumer technologies. However, conference organization and volunteers were lacking, paper submission quality and attendance was declining (before COVID), industry was disengaged, continued decrease in paper submissions and quality, patronage did not exist, marketing and publicity also did not exist and financials for sustainability was poor. Thus, the goal and focus was to complete restructuring conferences to overcome these concerns.

Over the past 4 years, we worked on reforming the conferences’ organizing committees—especially our flagship ICCE, ICCE-Berlin, GEM, and new ISDPSPM (full names are below)—and

created templates for the budget, call for papers, and the conference program to also include an industry component. We also gave accepted authors the first choice to present in either lecture (formerly “oral”) or interactive (formerly “poster”) style as once the paper is accepted, there is no distinction in quality between either presentation style—author choice based on their preference and desired outcomes from presenting was paramount as a benefit to submitting a paper. We also brought interest from industry to be a sponsor/patron and be part of the conference program like “the old days.”

Over the past 4 years, we created the Society Conferences Strategy Committee (SCSC) to oversee all conferences, and a Society Conferences Technical-Streams Committee (SCTC), with chaired stream subcommittees for strengthening the program and establishing a pool of volunteer editors and reviewers. Now, there is more organization, uniformity, and most importantly quality to our conferences, and that is despite COVID-19. Additionally, we defined CTSoc conference offerings and collaborations with sister societies, plus ensured that the organizing committees have industry representation—especially the General Chair position—and a program for industry, like CTSoc used to have in decades past. All this was defined in the By-laws and Policies & Procedures. The Society Conferences Strategy Board was established to oversee the conferences and continuously improve them.

We are proud to financially sponsor these conferences: IEEE International Conference on Consumer Electronics (ICCE), typically held in Las Vegas around the Consumer Electronics Show (CES); the IEEE International Conference on Consumer Electronics (ICCE), in Berlin, Germany, with IFA and VDE; IEEE International Conference on Consumer Electronics (ICCE) Asia, typically held in Korea with IEIEK; IEEE International Conference on Consumer Electronics (ICCE) Taiwan; IEEE Global Conference on Consumer Electronics (GCCE) Japan; IEEE Gaming, Entertainment, and Media Conference (GEM); IEEE International Symposium on Digital Privacy and Social Media (ISDPMS), San Jose; IEEE International Symposium on Consumer Electronics (ISTC), held by CTSoc Chapters.

CTSoc is also proud to provide technical sponsorship to these conferences: International Conference on Electronics, Information, and Communication (ICEIC), by IEIE; TRON Symposium

(TRONSHOW), Japan; IEEE Global Humanitarian Technology Conference (GHTC), USA; IEEE Battle Royale Gaming, Tournament—Events, Canada and IEEE CTSoc Cave Hill Royale, Barbados; IEEE Life-Tech—Japan; IEEE Quantum Week—IEEE, IECON—IES.

CTSOC PUBLICATIONS

A lot of effort was also put into solidifying improvements in publications because of the challenges from declining revenue and the transition to Open Access. Focus became on increasing citation indexing, introducing new editors and associated editors, accepting papers relevant to industry, and introducing more advertising to cover expenses.

We overcame these challenges by structuring a new Publications Board to oversee the Editorial Boards for each of the publications. Now, the technical content quality standards, and the improved processes for submission, review, and acceptance applies to all publications.

We are also proud to have introduced two new publications “IEEE ACCESS/Section for Consumer Technology Society (Open Access),” and “News on Consumer Technology (NCT)” to our established reputable line up of publications. Our publication lineup also includes: IEEE TRANSACTIONS ON CONSUMER ELECTRONICS; IEEE CONSUMER ELECTRONICS MAGAZINE; CTSoc World Newsletter; CTSoc Digital Library; CTSoc Resource Center. We are aiming also and it is in process to have an Open Access on Consumer Technology, and one on the Metaverse. This has been discussed at the BoG and a motion unanimously passed to have an Open Access on Consumer Technology.

Also, CTSoc jointly publishes with other IEEE societies the following: IEEE REVIEWS IN BIOMEDICAL ENGINEERING; IEEE TRANSACTIONS ON CLOUD COMPUTING; IEEE TRANSACTIONS ON COGNITIVE AND DEVELOPMENTAL SYSTEMS; IEEE TRANSACTIONS ON COMPUTATIONAL IMAGING; IEEE TRANSACTIONS ON GAMES; IEEE TRANSACTIONS ON INTELLIGENT VEHICLES; IEEE TRANSACTIONS ON IMMERSIVE DISPLAYS.

All this had saved on costs, however, the publications offering and quality of our publications had improved greatly.

CTSOC MEMBERSHIP DEVELOPMENT ON THE GLOBAL STAGE

When I started in 2019, the worry was continuing membership decline and decreasing

chapter activities. However, we set the goal of steadily increasing the membership by improving service offerings, plus supporting chapter activities to attract new members and retain existing ones.

COVID-19 hampered all IEEE's society's growth, however, despite this, we exceeded the goal of increasing membership by the end of my term. We did this because of all the good changes made and the offerings given to our members (including academics, practitioners, industry professionals, researchers, women in engineering, young professionals, and students), such as enhancing benefits and developing value-added programs; reducing CTSoc student membership annual fees from US \$10 to US \$1; offering substantial discounted fees to attend CTSoc virtual conferences, free webinars, and workshops; including, as part of the membership, free subscriptions to CTSoc transactions, magazine, open access/section, news on consumer technology, and CTSoc world news. Also, the creation of 15 Technical Committees in different consumer technology fields to attract potential members from industry and regain industry's trust.

Also, to support our chapters, we established four (4) Regional Directors, one each in the North America Region (Regions 1-7), Europe/Middle East/Africa Region (Region 8), Latin America Region (Region 9), Asia Pacific Region (Region 10). The support included: training of chapter officers as a key responsibility and emphasis on ensuring openness, diversity, equity, and inclusion in each chapter and in all activities especially volunteer selection and grooming of next generation leaders; extending CTSoc relationship and coordination with IEEE Sections and Regions (333 sections in ten geographic regions worldwide R1-R10) to enhance the CTSoc global visibility and membership; outreaching to preuniversity and precollege students, and supported IEEE student branch activities at local academic institutions.

CTSoc worldwide now has 35 Chapters and 20 Student Branch Chapters across these regions. It is important that CTSoc builds a profound and successful correlation and interaction between CTSoc and its chapters, and provides the chapters with support, training, and tools to increase the chapter activities and membership as this is another key to a vibrant and growing Society. At the same time, we needed to provide

support to CTSoc Women in Engineering-WIE and Young Professionals—YP, and we have a representative chair for each affinity group.

CTSOC EDUCATION ACTIVITIES

In a growing and rapidly changing arena, it was important for CTSoc to help its members—industry professionals and academic researchers—and others interested keep current in their skills and knowledge and to foster individual commitment to continuing education in the area of consumer technologies.

Thus, we strengthened the Distinguished Lecturer Program (DLP), Distinguished Speaker Program (DSP), Educational Activities & Webinars (EAW), Education Resource Center, tutorials at conferences, webinars, workshops, and panels offered virtually and in person. The materials and recordings of all these tutorials, webinars, and workshops are available on CTSoc Education Resource Center and IEEE Learning Network. Also, unique to IEEE, we established the CTSoc Young Prodigies Program as the young prodigies are on the rise with special talents in certain domains and will become the potential expert and leaders in the STEM field.

CTSOC INDUSTRY AND STANDARDS

The consumer technologies industry is constantly and rapidly evolving and revolutionizing technology as global demand and expectations from smart devices and systems such as augmented reality, SmartTV, smartphones, mobile computing, IoT, AI, Blockchain, games, autonomous cars, smart cities, etc., grows. All these rapid and dynamic changes negatively impact our Society if we do not maintain ourselves as the premier technical association in the consumer technologies industry and strive for the advancement of the theory and practice of engineering and technology. As an international leading professional engineering society, the goal for our Society is to continue to deliver to our members, industry, government, and academic communities the best professional services. Increase prominence and visibility of CTSoc within industry and academia, other societies, professional organizations, and among media, as the voice for technical professionals who can enhance understanding of CTSoc technology for societal betterment. Position CTSoc to provide technical

leadership in response to needs of rapidly changing industry.

One way industry is deeply involved in CTSoc now is through standards development. The CTSoc Society Committee on Standards (SCS) was established to consist of both academic and industry experts who oversee Standards Development relevant to the CTSoc field of interest and manage the Standards Committees (SC) plus working groups (WG). There are 47 active CTSoc Standards Working Groups managing 75 active CTSoc Standards Projects (Project Authorization Requests—PARs). Our Society is now the top IEEE Societies & Councils in number of entity-based standards activities. There is concerted effort to move these PARs to completion or closure before taking on new ones. The SCS collaborates with the IEEE Standards Association (SA)—Standards Board and IEEE SA Standards Board New Standards Committee (NesCom).

Also, importantly, established under CTSoc Industry & Standards is the “Industry Advisory Board (IAB)” to serve industry needs from education to standards. By recruiting a representative cross section of industry technical and general management leadership to participate in this CTSoc IAB to our Industry and Standards Activities Committee, such an advisory group is to provide identify priority technology topics for CTSoc treatment in its’ publications, conference, educational activities, technical activities, and standards sponsorship. CTSoc IAB members are executive level industry and government leaders.

OPERATIONS AND PLANNING

For our Society to grow big, it had to act big, and the first step was to have strong leadership in Operations and Planning—a new function in CTSoc—that could focus on restructuring the Society’s Executive Committee, Board of Governors and Standing Committees with support from all the VPs in restructuring their domains and jointly creating the strategic plan, plus fostering and strengthening collaboration with Sister Societies.

In 2020, CTSoc operations were reviewed by the TAB Society and Council Review Committee (SCRC), a once in four year exercise to ensure the societies are operating per IEEE rules and are continuously improving by, for example, applying best practices of other societies. CTSoc passed the review with the only two recommendations being to do more diversity, equity, and

inclusion (DEI), especially in Region 9, and to complete updating its governance documents.

The last update to the Bylaws was in 2015, and to the operations manual (Policies and Procedures) was in 2014. Revision of these two important documents were approved by CTSoc governance bodies and finally the IEEE Technical Activities Board on 23 November 2021. CTSoc operations are now transparent and inclusive.

Also, with elections, we ensured Officer representation from each region, and activities in each region—especially Region 9—and emphasized the need for DEI in all committees.

CTSoc Board of Governors

The BoG now consists of the President, Past President, Vice President for Operations and Planning (new), Vice President of Conferences, Vice President of Publications, Vice President of Technical Activities (new), Vice President of Membership Development, Vice President of Industry and Standards Activities, Vice President of Educational Activities, Treasurer, Secretary, fifteen Members-at-Large, and four Regional Directors (new) [North America (Regions 1-7), Europe/Middle East/Africa (Region 8), Latin America (Region 9), and Asia-Pacific (Region 10)], Treasurer, Secretary and Governance (latter is new), and Society Administrator. The VP of International Affairs responsibilities merged into VP of Membership Development.

CTSoc Standing Boards and Committees

CTSoc now has twenty-two (22) Standing Boards and Committees. Seven Committees report directly to the CTSoc President: Awards, Executive, Fellow Evaluation, Finance, Governance, History, and Nominations. The remaining 15 committees report to their respective Vice Presidents: Distinguished Lecturers, Education and Webinars, Future Directions, Industry Activities, Marketing, Membership and Development, Operations and Planning, Public Relations, Publication Board, Sister and Related Societies, Society Committee on Standards, Society Conferences Strategy Board, Technical Committees and Technical Committees Board, Women in Engineering, and Young Professionals.

HISTORY

CTSoc has an exciting history that keeps on developing. I find it amazing that our society’s

roots trace back to Thomas Edison and Alexander Graham Bell. On 13 May 1884, in New York City, a group of electrical engineers, including Edison and Bell, formed the American Institute of Electrical Engineers (AIEE). In 1912, with the invention and development of radio, a spin-off society called the Institute of Radio Engineers (IRE) formed and held its first meeting on 1 November 1949. In 1963, IRE merged with AIEE to form the present Institute of Electrical and Electronics Engineers (IEEE). The birth of CTSoc was in 1963 when the name changed to the "IEEE Professional Technical Group on Broadcast and Television Receivers" (PTGoBTR); a year later it changed to "Group on Broadcast and Television Receivers (GoBTR)," and sometime between August and December 1974, it changed to "IEEE Group on Consumer Electronics (GoCE)." A year later, GoCE merged with "Group on Broadcasting (GoBC)" to form the "Broadcast and Consumer Electronics (BCCE) Society." However, between 1976–1982, the Consumer Electronics Group ran as a separate subgroup under the BCCE Society. In 1982, the IEEE Technical Activities Board (TAB) approved the dissolution of BCCE in favor of forming two separate societies: the "Consumer Electronics Society (CES)," and the "Broadcast Technology Society (BTS)." CES held its first meeting in 1983. Three decades later in 2013, the CES Administrative Committee became the CES Board of Governors. This body, on 16 August 2020, proclaimed the change of our Society's name from "Consumer Electronics Society (CESoc)" to "Consumer Technology Society (CTSoc)," which took effect on 1 January 2021. In the last four years, CTSoc internally changed to become a stronger, more relevant and sustainable society that can stay current or ahead of industry change and deliver for its members, industry, government, academia, and the public.

CTSOC AWARDS

IEEE and CTSoc are governed and run by volunteers, and strengthened by its members, companies, and institutions in its Fols. Recognizing contributions and achievements for CTSoc and its Fols is very important and we do so by providing recognition and awards.

Given my commitment to bring industry back to CTSoc, in 2019, I established two most distinguished awards to annually recognize industry

leaders and corporations:—"Distinctive Exemplary Industry Leader Award"—recognizes a distinctive and exemplary industry executive whose leadership has made a significant impact globally and who has led preeminent and extraordinary advancements in consumer technology—"Corporate Innovation Leadership Award"—recognizes an organization that has demonstrated outstanding innovation and leadership in consumer technology. The organization had also contributed to the IEEE Consumer Technology Society's (CTSoc) service to the public and members.

In 2021, two new CTSoc Awards were established to recognize the most active chapters—"Best Chapter of the Year Award"—recognizes, with a monetary award, the best Chapter of the IEEE Consumer Technology Society (CTSoc) that has accomplished outstanding activities that promote Chapter membership growth and participation into the activities of IEEE CTSoc, which include (but are not limited to) conferences, workshops, tutorials, standardization, publications, editorial work, etc.—"Outstanding Achievement Chapter Award"—recognizes, with a monetary award, the IEEE Consumer Technology Society (CTSoc) Chapters that have accomplished outstanding activities that promote Chapter membership growth and participation into the activities of IEEE CTSoc, which include (but are not limited to) conferences, workshops, tutorials, standardization, publications, editorial work, etc.

In 2022, CTSoc, for the first time, established and funded the "IEEE Consumer Technology Society Student Scholarship" Awards to be administered by the IEEE Foundation. Every year, a winner(s) will get a monetary award. This scholarship is intended to recognize and reward an active CTSoc student volunteer who has outstanding and impactful contributions in the areas of interest of the IEEE Consumer Technology Society.

In collaboration with the TAB Awards and Recognition Committee, we made the application form more relevant, and the submission plus selection process more rigorous and transparent for the following three awards: *Significant Achievement Award*, *Outstanding Service Award*, and *Chester W Sall Memorial Awards*. CTSoc also improved the review and selection processes done by the Editorial Board and the TPC, respectively, for the Consumer Electronics Magazine (CEM) Awards and Conference Awards.

Of valuable mention is the prestigious "IEEE Masaru Ibuka Consumer Technology Award" that is

administered by IEEE under the technical field awards and medals. Previously, it was called “IEEE Masaru Ibuka Consumer Electronics Award,” and I am proud to have gained the name change approval to “*IEEE Masaru Ibuka Consumer Technology Award*” from the IEEE Board of Directors. I am also proud to serve as the current Chair of the IEEE Masaru Ibuka Consumer Technology Award Committee. The IEEE Masaru Ibuka Consumer Technology Award was established by the IEEE Board of Directors in 1987 to recognize outstanding contributions in the field of consumer electronics technology. It may be presented annually to an individual or team of up to three. It must be noted that the Ibuka Award is an IEEE Field Award, not a Society Award.

CTSOC AND SISTER SOCIETIES

There are many other societies around the world that serve some parts of CTSoc Fols. We believe that it is important to collaborate so everyone wins, particularly the public first. In the past four years, we renewed or established new MOUs to enhance and strengthen our relation with current Sister Societies, and promote opportunities to build relationships with other national and international Sister/Related Societies. To date we have an MOU with: Verband der Elektrotechnik Elektronik Informationstechnik/(Association for Electrical, Electronic & Information Technologies) (VDE), Germany. The Caribbean Telecommunication Union (CTU), the Caribbean; The Institute of Electronics and Information Engineers Korea (IEIEK); China Institute of Communication (ICC); Shanghai Association of Artificial Intelligence (SAAICIC). In process is an MOU with: IFA Messe-Berlin & CTSoc (IFA), Germany; Consumer Technology Association (CTA), USA; Audio Engineering Society (AES), USA; Advanced Television Systems Committee (ATSC), worldwide; CMAI/TEMA, India.

GLOBAL STAGE

All the described activities herein led for CTSoc to be recognized worldwide as an

important pillar in the consumer technology arena. The IEEE Consumer Technology Society (CTSoc) is a global leader that inspires research, development, and deployment of cutting-edge technologies for consumer devices and systems for the advancement and benefit of humanity. A special thanks goes to TELUS and Dr. Ibrahim Gedeon, IEEE Fellow, for his valuable steadfast leadership guidance and support of IEEE in general and CTSoc specifically.

In conclusion, our Society needs more dedicated volunteers, and we need you. Please know everything that is happened, be proud and be part of our Society’s continuous improvement! CTSoc is a very important pillar in the consumer technology arena and electronics industry, and it has already made and will continue to make lasting and outstanding significant participation and contribution to consumer technologies. I devoted my best efforts working closely with the BoG, extending volunteer leadership, and CTSoc Membership to achieve our goals. It is also the duty of every member to be engaged and to participate in enhancing the values of the scientific and engineering profession, and service to the consumer technologies community. I will continue my devotion and fully support my successor, Prof. Wen-Chung Kao, the current 27th President of CTSoc. Prof. Kao will continue to grow CTSoc successfully into the future.

Dr. Wahab Almuhtadi, P.Eng., SMIEEE, EIC, Fellow, 2019–2022 President of the IEEE Consumer Technology Society (CTSoc).

Wahab Almuhtadi is a Professor/Coordinator of “Optical Systems and Sensors” Program, Algonquin College/Carleton University, Ottawa, ON K1S 5B6, Canada. He is a Member of the Research Council of Digital Research Alliance of Canada. He is a professional engineer and a fellow of the Engineering Institute of Canada. He is a Senior Member of the IEEE. Contact him at almuhtadi@ieee.org.