

**President’s Luncheon Manuscript
2020-21 ASHRAE President Charles E. Gulledge III, P.E.
February 9, 2021**

When I became your Society president, I told you about the lessons that I learned from working beside my grandparents during the summers and about the natural progression of work.

Plant, plow maintain and harvest. I learned that you can't cheat the natural process. Engineering & Construction (E&C) is a lot like farming.

* Plow: Preparation requires assembling the correct team.
* Plant: The outcome we desire needs a well-defined path.
* Maintain: Continuous improvement is implemented to drive value.
* Harvest: Built solutions that exceed expectations are delivered.

This led us to explore our path to digital transformation. A world, where we break down work silos and become one integrated force. Where new technologies and business models mandate intelligent and transparent collaboration. Where knowledge is captured and linked in such a way that ALL relevant stakeholders’ benefit. Where data becomes a critical resource, and we implement technology to improve our productivity.

After living through the events of 2020, I no longer need to ask you to join me in this digital transformation – we’re living it through the adopted new technical solutions that keep us connected.

Since June, we all have adapted to new ways of working and engaging. As your Society President, I have been able to travel the World; ALL from the comfort of my home in North Carolina!

I have experienced:

* The mighty lion on the plains of Africa.
* The Bengal tigers of India, and the Taj Mahal.
* The pyramids of Egypt.
* The elephants of Sri Lanka.
* The cliffs of Petra, in Jordan.
* The painted buses of Karachi.
* The rhinos of South Africa.
* The beaches of Southern California.
* The Komodo dragons of Indonesia.
* The new Olympic stadium in Tokyo.
* And, the port city of Halifax, Nova Scotia

The Digital Age of Connection has allowed a locked down world to remain open to the ASHRAE family!

Our theme this year, *“The ASHRAE Digital Lighthouse and Industry 4.0”* is creating intense global excitement. Our entire built solution ecosystem is embracing the principles of Plow, Plant, and Maintain; in pursuit of reaping record Harvests.

Collaboration is being accepted as preferred business practice. Stakeholders are accepting the principles of Lean thought. Digital business in the Cloud is keeping us engaged at work. Off-Site solutions are becoming the “standard way”, not just the wishful desire. We are all transforming our approach to Work, Workforce, and Workplace to seek Value; and improve holistic productivity.

**SLIDE 4**

* Being ASHRAE President in a virtual world has created opportunities that were not readily available to previous Presidential members. I have had the honor to attend, and participate, in nine (9) of our Chapters Regional Conferences across the fifteen (15) Regions of Society.
* Such member engagement would not be physically possible, or financially viable, in the old normal.

**SLIDE 5**

* Another example of our Society’s ability to pivot out of the old normal is the 2021 ASHRAE Virtual Winter Conference.
* I’d like to give a personal thanks to General Chair Chad Powell and the host committee for making such an effective transition from an in-person conference to an impactful virtual event. In addition to our robust technical program, presentations and Society updates, be sure to check out the host committee’s virtual social event – an escape room - as well as a Virtual Technical Tour of a Chicago-based Data Center called STACK Infrastructure.

**SLIDE 6**

* Building on the premise that a virtual world affords easier access to the Membership, I created my own personal MBO. Every chapter within ASHRAE is accessible; let’s visit each one!
* Thru the end of December, I am proud to say that I have been able to visit 70 individual chapters. Some chapters have received 2 and 3 visits, per request. The total count of chapter engagement stands at 84 chapters for half of the Society Year. Many of these visits came with the personal honor of virtually installing new chapter officers for the 20-21 SY.
* This would not be possible without the evolution of Digital Connection.

**SLIDE 7**

* With the addition of the Peru Chapter (Region 12) and the Sudan Chapter (Region-at-Large), ASHRAE now has 198 Chapters, 15 regions and more than 250 student branches.
* We welcome all the new ASHRAE members and students to our family!

**SLIDE 8**

* Our peer Societies and Organizations have all responded to the Global Pandemic by pivoting to virtual engagement. You will be happy to know that ASHRAE has been able to maintain our reach and interaction, without losing critical access to the global portfolio of industry stakeholders.
* If truth be told, we have been more engaged by being free of the time and travel logistical burdens. Thru the end of December, I have been able to connect with over 1,777 industry stakeholders around the world.
* Of particular note, I want to provide a tremendous shoutout to CIBSE for how the CIBSE-ASHRAE Graduate of the Year competition was conducted. Student candidates were thrust into the virtual world. They all created sharp videos responding to the timely challenge – “How should the role of the building services engineer evolve to meet the challenges of a new Normal?”. ASHRAE was able to remain a part of this competition via Digital Connection. As demonstrated by these incredible student candidates, our digital future shines brightly.
* ASHRAE has continued to reach out to our peer organizations through presentations and webinars, including:
	+ - Presentation to AABC on Digital Transformation in the Building Industry
		- CIBSE - ASHRAE Symposium
		- NBI Webinar with ASHRAE Experts on Decarbonization Technologies
		- The Building Energy Exchange Webcast on ASHRAE’s core sustainability commitments through our new HQ
		- AIRAH Outlook 2020
		- ISHRAE
		- Indian Green Building Council

**SLIDE 9**

* Maintaining and Creating strategic alliances is critical to the ASHRAE mission.
* I am happy to report that we’ve formed partnerships with the following organizations:
	+ The New York State Energy Research & Development Authority (NYSERDA)
	+ The Air Movement and Control Association (AMCA)
	+ The American Society of Health Care Engineering (ASHE)
	+ Deutscher Kalte und Klimatechnischer Verein (DKV)
	+ The Kuwait Foundation for the Advancement of Sciences (KFAS)
	+ The National Association of State Energy Officials (NASEO)

and

* The Chartered Institution of Building Services Engineers (CIBSE)
* These relationships will help ASHRAE’s Digital Lighthouse shine even brighter.

**SLIDE 10**

* Government outreach remains alive and well in this virtual environment. ASHRAE members are on track to hold as many, or exceed, the number of outreach events that took place last year.
* Government officials are particularly interested in the work of the Epidemic Task Force. Transmission of the virus in buildings, and the connection to health, is a critical issue.
* ASHRAE has held over 50 meetings thru December on the COVID-19 topics; including some high-level briefings with members of Congress, Congressional Committees, and the Biden Transition Teams. Our members have also testified before legislative bodies, held panel discussions with U.S. Senators, and have shared ASHRAE guidance on a global basis.
* Legislation and policies at both the state and national level have referenced ASHRAE standards, guidelines, and the ETF guidance. We have demonstrated our relevance and importance. Our technical resources, and expertise, are in high demand!
* Buildings will continue to have a focus, in the upcoming year, on health and sustainability. We look forward to seeing how much more our GAC engagement will do, in making sure that ASHRAE is at the forefront of policy decisions and legislation.
* ASHRAE joined more than 680 built environment experts from 51 countries in a petition urging the World Health Organization (WHO) to adopt and advance indoor environment best practices proven to help protect building occupants worldwide from the spread of COVID-19.
* I am pleased to report that during a recent online press conference, WHO COVID-19 technical lead Dr Maria Van Kerkhove said that guidelines have been put forward for indoor humidity levels following the petition.
* ASHRAE’s next step is the creation of “country-level regulations” that will “improve the standard of public buildings around the world.”
* ASHRAE also worked with Senator Martin Heinrich of New Mexico on the Keeping Schools Safe Act, legislation that authorizes the Secretary of Education to award grants that enable elementary and secondary schools to improve indoor air quality using proven technologies and in an effort to reduce the transmission of COVID-19. Providing acceptable indoor air quality is an essential building service and I am heartened to see that Senator Heinrich’s legislation recognizes the importance of buildings and their HVAC systems in minimizing the risk of coronavirus spread in some of our most important buildings: our schools. I am also pleased this legislation would require the Secretary of Education to consult with organizations such as ASHRAE to develop technical guidance for using these funds.

**SLIDE 11**

* In case you missed the announcement, ASHRAE has moved to 180 Technology Parkway in Peachtree Corners, GA. What an incredible facility we, as members, now own!
* The story goes far beyond we just moved though. We are demonstrating to the world how existing 1970’s era real property can be revitalized to become a net-zero high performance asset.
* The World is looking for insight on how to accomplish transformation of existing building stock; via an economically successful, and replicable, model. Our Conditions of Satisfaction focused on:
* Demonstrating how transformation is possible.
* Showcasing an affordable, net-zero energy strategy.
* Providing a built environment that exemplifies building wellness and worker productivity.
* Demonstrating the application of ASHRAE’s Advanced Energy Design Guides for Net-Zero Office Buildings.

and

* Developing a model of what Deep-Green Retrofit Construction looks like.

**SLIDE 12**

* Our new facility is loaded with innovative solutions. From the 6-way valves that feed radiant panel zones, to displacement diffusers, to low-speed high-volume fans, to water-source heat pumps, to dedicated outside air systems and dewpoint control, to daylighting; you will see ASHRAE’s technical resources in action.
* I encourage you to watch the Technical Features tour being presented at this conference to learn more about what went into our new building.

**SLIDE 13**

* Last year, Presidential Member Boyce tasked us with the inclusion of Digital Twins as an integral part of effective building operations. The cyber-physical evolution is just one element of our journey into Industry 4.0.
* I am excited to announce that OUR Digital Twin is becoming a living building asset. We have an interactive experience that allows visitors, and on-site operations, to monitor thermal conditions, resource usage, and environmental health. All of this is available via touchscreen dashboard monitor in the lobby.
* Imagine how insightful this will be when we get the PV array tied in and we begin to create our unique data lake of knowledge!

**SLIDE 14**

* The ASHRAE Library is evolving to the Digital Age. Not only do we have a new physical library location, but we now have a digital lighthouse. Our new Online Catalog has launched.
* Visitors have the opportunity to browse a rich collection of knowledge, including many rare publications.

**SLIDE 15**

* For those of you who do not know the full background, our journey to 180 Technology Parkway began over 3 years ago. The growth and expansion of the Children’s Hospital of Atlanta (CHOA), put ASHRAE into a position of needing to move.
* Along a long road, traveled rapidly, we have reached closure on new residency. We would not be here today if it weren’t for the incredible dedication and passion provided by our Building Ad Hoc Committee, chaired by Ginger Scoggins.
* Ginger, and the entire Building Ad Hoc Committee, ASHRAE can’t thank you enough for being stewards of this critical responsibility!

**SLIDE 16**

* In addition to our volunteer stewardship, donations and contributions made our new home financially viable. We cannot thank these organizations, and individuals, enough for their dedication in supporting this initiative!
* You see their names behind me. When you see or talk to them, please thank them for their invaluable generosity!

**SLIDE 17**

* ASHRAE’s guidance and resources are more important than ever. The Research Promotion Campaign supports Education, Endowed Research through ASHRAE Foundation, YEA programs, ASHRAE Scholarships, and the General/Unrestricted fund. Research, the backbone of ASHRAE, remains the primary fund of the program with over $2 million raised for this program annually.
* Last year’s goal was $2.6 million. We ended the campaign with a total of $2,085,173 – 80% of our goal!
* We maintained our $2.6 million goal for the 20-21 Society Year and have raised more than $555,960 to date. Thank you to our donors for your generosity and thank you to our hardworking RP committee members.

**SLIDE 18**

* ASHRAE continues to stay on the cutting edge of digital transformation with new publications and standards such as
	+ BACnet Standard 135-2020
	+ Standard 90.1 2019 User’s Manual
	+ ASHRAE Design Guide for Cool Thermal Storage
	+ and
* Standards 185.1 and 185.2
* ASHRAE Technical Committee (TC) 9.9 (Mission Critical Facilities, Technology Spaces and Electronic Equipment) has addressed the unanticipated risks associated with edge computing design and operation through a new technical bulletin, “Edge Computing: Considerations for Reliable Operation.”
* ASHRAE’s Datacom Series provides 14 a comprehensive publications on treatment of data center cooling and related subjects.
* I encourage you to check out the technical bulletin and the Datacom Series at [ashrae.org/datacenterguidance](http://link.mediaoutreach.meltwater.com/ls/click?upn=-2FTa5VosNaPZQaCXYaNySgQAugnhjp1zn7JYxiX35u8lS7GFA-2B6-2B6LlA3l8nIPrGzGOV5TEKIgz6skEBYFKAWbw-3D-3Dk6zo_l-2FMvxEfBKafxDcTUUAUpe70Ata6agNuzaIX9f3dtC7maKo-2Fhp8-2FagZTGw0Y3TgSV-2BTjhkSfWHjnCae8gCEyK2Vv1Pw8wzImHWNotpovP8fsoiQY4E2Uj-2BG9QgT2k3D3FNU3QEYq7YGgKNjUGSzoVyQ1TNxOz9onlYcUEUOX8GKdNatsPvjqm6A79lrE0L8ZZT0gaQwVml7p-2FPTaYvx0CPdPKXabkzvI9gr8MsmZB6zzCtYvuYllIOE0Ij-2FYzWZ82o6nxwH9UeXO2l0mUqDgIQ-2FAkEyGgZVi8nF3SEPvUPPiE547cxhTOCjTWRt1sGqpGKbZarA-2F3n2Yx7NHrYws6yfWkh6bU7JhRHWpE85Nf9cPypZdiQtGzxUf5Ih-2BSN6fE5z0SsXDnXr80bIlP6PBDdg-3D-3D).

**SLIDE 19**

* The 2020 Student Design Competition focused on building a new 17,500 square foot document storage and archive center in Mumbai, India. The new facility’s purpose is to store rare documents, books, manuscripts, photos, and audio recordings in a manner that will ensure the preservation of historical items for future generations.
* In the 2020 Setty Family Foundation Applied Engineering Challenge, students were challenged to design a system to be used by building occupants to report operational issues to building operators.
* ASHRAE has awarded 30 Society Scholarships totaling $167,000 for the 2020-21 Academic Year.
* I would note that a new $5K scholarship opportunity, courtesy of the Hoffman family is being acted upon at this conference.
* Congratulations to our student winners and thank you to the benefactors who have made these scholarships possible.

**SLIDE 20**

* ASHRAE has a prominent presence on Facebook, Twitter, LinkedIn, YouTube – and in early November launched on Instagram, featuring photos and videos of our new global headquarters.
* Since the beginning of the Society Year, ASHRAE’s social media audience has increased to more than 196,000 combined followers.
* Combined engagements increased by 31%, combined impressions increased by 113% and post link clicks by 146%.

**SLIDE 21**

* The ASHRAE Epidemic Task Force has been established to offer ASHRAE’s technical resources and expertise in addressing the challenges of the current pandemic, as well as future epidemics as it relates to the built environment. Our volunteers on the task forces tirelessly give guidance on the effects of heating, ventilation, and air-conditioning systems on disease transmission in healthcare facilities, the workplace, home, public and recreational environments. Their work has been invaluable, and we are grateful for the impact that they continue to make as the world learns more about the relationship between infectious disease mitigation and indoor air quality.
* ASHRAE’s Epidemic Task Force has worked tirelessly to respond to media inquiries from around the world.
* Not only have ETF members proved to be a valuable resource to media, our ETF members have helped to prevent the spread of incorrect information.
* To date, ETF members have responded to more than 134 media interview requests. News stories have generated more than 6.5 billion media Impressions.
* Our team has responded to more than 1,065 Inquiries to COVID19@ashrae.org.
* And, there have been more than 48,000 downloads of the ETF Infographic.

**SLIDE 22**

* Since July, my vision of digital transformation has been featured in 6 articles with influential industry media.
* ASHRAE news and updates from our press releases, including the work of our Epidemic Task Force, has received more than 12 thousand media placements from June thru December of 2020.
* And all of those articles and news placements contributed to more than 16 million media impressions, which is how many people read about the work our Society is doing.
* Media engagement from around the world has been robust, with a focus centered around ASHRAE standards and guidelines, the new ASHRAE President, COVID-19 response, ASHRAE’s new global headquarters and the ASHRAE Digital Lighthouse theme.
* Our media exposure further validates ASHRAE’s thought leadership not only in the built environment, but across all industry sectors.
* Speaking of the ASHRAE Digital Lighthouse theme, note these articles titles from leading industry publications. They paint the picture well:
* The Essentials of a Digital HVACR Ecosystem.
* Start Planting Better Buildings.
* ASHRAE’s Digital Lighthouse Now a Beacon

and

* Planting Seeds of Digital Innovation.
* The Plow, Plant, and Maintain analogy took root. You may find a link to all these media features on the President’s Page on ashrae.org.

**SLIDE 23**

* The world has not been very receptive to travel so far this year. Those that know me well would expect to see a plethora of digital photos aligned with my travels to the ASHRAE membership.
* If the virtual world teaches us anything, grounded does not equate to separated! I have been so very fortunate to have Regions and Chapters bring their culture and experiences to me via the digital platform.
* ASHRAE has created a virtual travel map of my journey around the world. I encourage you to check this out to see who the diverse ASHRAE family really is.

**SLIDE 24**

* The ASHRAE President’s web page contains a vast amount of information. These resources are available at ashrae.org/president
* The Society theme speech Video and PowerPoint deck can be found here, along with a printed manuscript. Via the generous efforts of ASHRAE volunteers; one can also find translations of the manuscript in French, Portuguese, and Spanish. Merci beaucoup mes amis!
* Take the time to visit the Knowledge Portal. We have prepared a vast amount of Internal and External resources that align with the critical Theme elements of Collaboration, Lean, Value, Digital, and Off-Site.

**SLIDE 25**

* I know many in the ASHRAE Family are disappointed that we can’t be face-to-face in Chicago for this conference. The cancellation of the AHR Expo is a shock to our business model. I was looking forward to, what may well have been, our last visit to the Palmer House.
* Do not let these developments discourage you though. ASHRAE is strong and built on a solid foundation. We have pivoted from relying on physical engagement, to working collectively in a virtual world.
* Our reach is growing. Our engagement is increasing. Our speed to market is improving. We will be stronger because of what we have learned, and endured, during this pandemic. The Digital Lighthouse of the Future will shine brightly to guide us on our journey together!