The AACE International 2020 Slate of Candidates

An Imminent Fundamental Transformation in the Contract and Supply Chain Process

Evaluating Project Performance Using Baseline Schedules
SAVE THE DATE!

June 28 - July 1, 2020
Hilton Chicago
Chicago, Illinois, USA
Three ways to measure your adaptability — and how to improve it

When venture investor Natalie Fratto is determining which start-up founder to support, she doesn’t just look for intelligence or charisma; she looks for adaptability.

A Y-Combinator alum and former IBM Watson strategist, Fratto invests in underestimated startup founders and writes about how technology shapes the world around us. She’s written for Fortune, Fast Company and Motherboard.

In this insightful talk, Fratto shares three ways to measure your “adaptability quotient” — and shows why your ability to respond to change really matters.

Source: www.ted.com
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The Top 10 Reasons To Join AACE International

Ready to advance your career and begin enjoying the advantages that our members enjoy? Whether you are an experienced cost engineer or a student, we have a membership ready for you.

1. **Time**
   Gain access to a wealth of resources that will save you time and money! You’ll stay informed about the complexities of the cost and management profession - plus you’ll have access to discounts on educational programs, publications, and more!

2. **Information**
   Locate thousands of technical papers and publications in the Virtual Library. AACE’s database is keyword searchable for quickly locating appropriate reference articles.

3. **Career**
   Members can post resumes at no additional cost in our Career Center and keep your career on track through information sources such as our annual Salary and Demographic Survey of Project and Cost Professionals.

4. **Learning**
   We offer numerous online learning courses on estimating and project management. The Approved Educational Provider program helps maintain high quality development courses and providers. AACE also holds many seminars throughout the year.

5. **Resources**
   Starting with the TCM Framework and Recommended Practices that are available for free only to members to our bi-monthly publication Cost Engineering featuring articles for cost professionals around the world. Through the AACE International website, the Cost Engineering journal is a great current resource for members and as a member, you gain access to an archive of past issues.

6. **Technical Development**
   Increase your knowledge and expertise by joining one of AACE International’s many technical subcommittees, subcommittees, and Special Interest Groups (SIGs) at no additional cost to members. Discuss industry problems with your peers or help experts develop new and improved techniques and practices for the profession.

7. **Networking**
   By attending a local section or our Annual Conference & Expo for interesting speakers, informational tours, social dinners and much more. The online Membership Directory is an excellent source for a list of contact information on thousands of members. Join one of our many technical subcommittees and participate in the AACE Forums - a great way to tap into the collective wisdom and experience of our world-wide membership.

8. **Excellence**
   Our certification programs are independently accredited by the Council of Engineering & Scientific Specialty Boards. AACE certifications are a recognized credible standard in the cost management field. A recent study shows that individuals with an AACE Certification earn 17.4% more than their counterpart without a certificate.

9. **Discounts**
   On products and services ranging from AACE International Conference & Expo registration fees, archived webinars and presentations, certification examination registrations, and more!

10. **You!**
    We are your professional partner bringing you information and support you can trust. Join and become part of a unique network of individuals who are dedicated to improving the cost and management profession.

JOIN TODAY! web.aacei.org
Providing the Best Products Possible

Since my last message, I have traveled and attended face-to-face meetings of our Certification, Education, and Technical Associate Boards. As an AACE International member, I am constantly grateful for the professionalism, technical expertise and dedication of our volunteer members. The work that our Associate Boards produce is ensuring that our Body of Knowledge provides our members with the unrivaled technical information to standout in our professional lives. In my 25-years as an AACE International member, I have grown to see our Body of Knowledge as my core competency that is unique, valuable and not easily duplicated.

I sat in on a Cert Board meeting this last weekend and here are my thoughts. The Certification Board strives to provide certifications that are attainable but not easily attainable, thus providing the certification holder with meaningful credentials. The holder of an AACE International Certification can give potential employers and clients initial comfort that the certification holder has the depth of knowledge to provide great value to any project team. In sitting in a Certification Board meeting, one is immediately aware that safeguarding the integrity of our Certification Exams is the Board’s mission. The Cert Board constantly is working to develop current, relevant certification test questions to challenge individual testers but more importantly to provide certification holders with a meaningful representation of knowledge attained. Kudos to Board Chair, Charlie Bolyard for leading an amazing group of volunteers.

It is obviously possible to attain AACE International Certification without becoming a member of the Association. After attending two Technical Board meetings in October and November, it is evident to me that holding an AACE International Certification without achieving membership is like buying a car without an engine. Once a client or employer is initially impressed with an AACE International Certification, membership in the Association gives our members access to a technical body of knowledge unrivaled in the international project’s profession. In my professional life, my clients are demanding expertise that are clearly provided by the AACE International Body of Knowledge. My certifications help get me in the door. However, access to the Association’s technical knowledge gives me a distinct advantage in providing the highest level of project expertise. The Technical Board works to produce and constantly update Recommended Practices that support the TCM framework. Board Chair, Todd Pickett and a group of dedicated member volunteers provide a thorough examination of all our technical documents. The work of the Tech Board is often exacting, and tedious but the end result are technical products, unparalleled in quality.

Last but certainly not least, was my visit with the Education Board expertly lead by Chair, Marina Sominsky. Updating and producing certification training material is the focus of the current Ed Board efforts. As can be imagined, there is an enormous amount of coordination that the Ed Board requires with both the Technical Board and the Certification Board in order to produce timely, relevant and thorough training material. All the Associate Board Chairs and their Vice President’s all met face-to-face at AACE Headquarters in Morgantown in October to set a framework for cooperation and idea exchange. The result is an ongoing monthly virtual meeting between the Board Leadership to work toward providing the AACE International membership with the best products possible. Much appreciation to the three boards for all their efforts and an unrivaled level of cooperation going forward.

This message will find our membership preparing for both the holiday season and the bright prospects for the upcoming New Year. I offer my best wishes to you and your families during the joyous holiday season. Be safe, enjoy some much-needed time off and recharge yourselves for the challenges and opportunities that 2020 holds for us all. Know that AACE International will be ready to provide the Technical, Educational and Certification products to you that will ensure your success in the upcoming year. ☃️

If you would like to contact our current president with questions or comments about The President’s Message please address your e-mail to president@aacei.org. To engage in other discussions, check out AACE International’s online Communities at communities.aacei.org.
An Imminent Fundamental Transformation in the Contract and Supply Chain Process

This condensed article is geared toward our industry and the project controls professionals that will be affected by this forthcoming and major transformation in the contract and supply chain space.

Smart contracts are here and present new and challenging opportunities for alignment on systems and resources and most importantly educating the end user and customers on its capabilities. Proven innovative, flexible, secure, with governance and traceability assemblies. It runs on a decentralized blockchain platform with end to end encryption. No intermediaries or middle system processes. Saves time, more productive, and yet extremely safeguarded against intrusions. In simple terms we can call them digital contracts compared to analog and digital schemes for example.

A very rudimentary example for a smart contract is the telephone booth (if one can remembers when we used to have these) or better yet the good old vending machine which still exists. You insert a coin, then a system of sensors, checks, and audits (mechanical and photographic) makes sure the coin is valid and fits the prescribed specifications, then proceeds to give you the product (actually you just initiated a quick contract and received a service or product).

Smart contracts acts in a similar way to the above but using blockchain and Bitcoins. Part of the blockchain technology is the decentralized ledger – basically a secure electronic ledger (several of them to each party) that changes every time an adjustment occurs on any ledger in the set. Thus, no room for surprises and errors - everyone knows the status, permit and inspection schedules, deliveries, delays, payments, etc., It speeds the process in a rapid and expeditious way (basically in an instant). Simply, smart contracts instill trust with all parties through the following:

Shared ledgers -> Permissions-> Consensus (all occurring in the distributed ledgers)

Just recollect for a moment what it’s taking our industry to initiate, produce, track, pay, and close contracts and the many systems and tools involved not mentioning the payment processing and collection efforts. It’s obviously antiquated and prone to claims and delays.

Many articles and editorials have a ton of information and are widely available but very few explains how it correlates to our industry, the challenges, and transformational steps that needs to take place both technically and business wise to publicize, promote, educate, and inspire this platform. Again, this is not an IT project – let’s call it the “Uber” of the engineering, procurement, and construction industries. Basically, not creating anything new rather than using existing systems, tools, and platforms (blockchain, electronic distributed ledgers, and Bitcoins) to revolutionize the contracting and supply chain industry.

Lastly, the industry is in a transformational period and looking for bold leadership and governance as we are venturing into this new disruptive technology and exciting next phase of the contracting arena.

Editor’s Note: This is part of a continuing series of short articles provided by members of the AACE International Technical Board.
An Update on the Decision and Risk Management Professional (DRMP) Certification

As the DRMP Certification Chair, I am often asked the following two questions:

1. Why are there so few DRMPs?
2. Why is the pass rate for the examination so low?

The answer to those questions can be summarized in the following way. First and foremost, it must be understood that this certification is one of the two “expert-level” certifications offered by AACE. This means that only the most experienced and most seasoned risk management professionals, who have had their career focus on all aspects of decision and risk management for many years, qualify to sit for the DRMP Certification Examination, and this naturally reduces the number of certified DRMPs.

Currently there are only 20 DRMP certification holders. A review of the historical data from candidate applications reveals that many of DRMP applicants do not meet the minimum eligibility qualifications for this certification and cannot take the exam. The most difficult qualification requirement is to demonstratively meet the experience portion which states that, “4 years must be directly related to the field of decision and risk management.” Additionally, the historical data also shows that none of the candidates who qualified in 2019 passed the DRMP examination. While the multiple-choice questions are difficult, most candidates have a harder time with properly constructing an acceptable memorandum in response to a specific scenario. Communication is a fundamental tool for risk management professionals. The best analytical skills are of little value unless the message can be communicated effectively.

The Certification Board recognizes this situation and is exploring a “professional-level” risk management certification to bridge the gap for upcoming DRM experts. This professional certification will fit nicely with the other professional level CCP, CEP, EVP and PSP certifications, and will provide a career-relevant recognition of competencies and experience with emphasis on the project risk management discipline. The overall objective is to provide a professional level certification that aligns with career path advancement for those DRM practitioners. The plan, in general terms, is to revise the multiple-choice questions appropriately for a project professional practitioner of DRM. The memorandum will be replaced with a narrative specific to a key element of risk management, i.e., explain the difference between a risk and an action; or explain why a contingency draw-down curve is an important element of managing risk.

More information will be available on this professional level risk management certification at the 2020 AACE Annual Conference and Expo in Chicago, so please stay tuned.
Canals, Clogs, Cheese and Construction... All the way from Amsterdam

Moving to Amsterdam was the biggest leap of faith I have ever taken. It was a big risk in every way and we had to adjust to our lives as expats in so many ways.

I was settled in Sydney, Australia, for 16 years after having worked extensively in South East Asia and some major projects in the Middle East. Working and traveling in Europe was always a dream, but everyone said that it’s a bit late in my career to try that. Who says 40 is late?

When I got this opportunity to work for one of the biggest infrastructure projects in Netherlands – Schiphol Airport Expansion, I didn’t think twice. I was convinced that I had to take that leap of faith. Yes, I did de-stabilize my family, did make that quantum leap out of my comfort zone, but with no regrets. This Capital Program is the project organization within the Royal Schiphol Group that manages major building projects at Schiphol. These projects are required to accommodate the increasing number of travellers through Schiphol and are in line with Schiphol’s ambition to be Europe’s preferred airport. The projects include the construction of a new pier and terminal, train and bus station renovations and expansions, as well as new car parks and roads around the airport.

Before we dive in, I always believe that cultural perspective is more important than technical skills and people skills are most important. This is particularly relevant for project control roles where your success is driven by the outcomes driven by your team, the delivery team and broader stakeholders. The technical bit is the easy bit to be honest.

Hence, I did spend a bit of time reading about the Dutch culture. The pointers that came out were – The Dutch are direct, always on their bike (yes, I cycle regularly now albeit mostly from home to the station), Dutch love their appointments and bureaucracy – yes, you have to take appointments for your banking questions, even to get registered as a resident, at the local municipality - everywhere. There is no concept of walk-ins. By the way, this is an interesting fact for you – Red tape literally did originate in the Netherlands. In the 16th century, historical records were bound with a red ribbon or tape. And that tape was manufactured in the Dutch City of Hertogenbosch.

Let me cut to the chase and explain the projects. Schiphol Airport Amsterdam is facing increased traffic numbers and to deal with the growing traffic there is a pipeline of projects planned (some under execution) – New Pier and terminal, Parking and other landside works, train tunnel upgrade, train station and bus stations, other infrastructure and utilities to support the growth. Earlier, Schiphol had developed a masterplan vision, in consultation with the most relevant stakeholders. Core of this masterplan vision was a phased development of Schiphol Centre by adding terminal capacity and new piers.

WHAT’S THE DRIVE FOR THIS PROJECT?
Before getting into any project details, it’s always useful to understand the drive for the project, the so-called purpose. The purpose for this Amsterdam project was always an essential part of personal development books from at least half a century back. This seems to work for organizations too. No surprise really! So, it’s not just academic speak, (Believe me).
The drive to innovate across sectors makes a clear case for the importance of purpose. Columbia Business School research from 2016 finds that companies with a clear mission achieve superior profit and stock performance. And a 2015 Harvard Business Review survey finds that companies with a clear purpose were more likely to grow at a pace of 10 percent or more. Executives of purpose driven businesses found a clear link between their mission and their ability to transform and innovate. Collaborative projects, such as the Broad Art Museum in Los Angeles and the National Museum of African American History and Culture (NMAAHC) in Washington, D.C., show how purpose driven companies can reach beyond a building’s physical confines and touch the soul (i.e., realizes its benefits).

Schiphol was already expecting capacity bottlenecks. Passengers’ quality perception of Schiphol, like many other airports, is under pressure. Passenger volume in 20 years is expected to be greater than today’s amount. At the same time, Schiphol’s key hub competitors (namely Heathrow, Frankfurt, Charles de Gaulle and Istanbul) were investing heavily to increase capacity and improve quality. This may have then prompted Schiphol to expand the airport in an area which is heavily congested in its current form and which has very little scope for additional construction traffic. When I went to look at the busy site, one thing that stood out to me was that this is different from many other projects. As we all know, projects are unique and it’s a cliché, I have said that again! This requires extremely smart planning in terms of logistics without disrupting air side operations or land side operations.

The following primary functions of project controls on the capital construction program are listed as a refresher:

- To establish the project budgets and cash flow requirements and to review the total estimated cost for the various design/engineering and construction projects.
- To monitor technical performance, to review and update the project cost estimates and project schedules, and to support the projects, stakeholders, and owners.
- To prepare reports that document the status of work in progress on design/engineering and construction projects.

In order to support the Authority’s project managers and to assist the respective design/engineering task managers and resident engineers with these important functions, the project controls staff must be fully informed of the various phases or elements of work, and be familiar with the schedule for each design/engineering and/or construction project. The staff must also understand the inter-relationship between the respective project scope, budget, cost, and schedule.

Anyways, you all know that, and we have set up a mission here to make this project a grand success. Oh, by the way—it’s Friday, so let me plan my next weekend away to The Black Forests. In all seriousness, it’s been a fantastic experience and I look forward to learning and experiencing. As there is so much history and museums in this place, let me conclude by a truly historic but relevant quote from one of my favourite engineers of all time: “Learning Never Exhausts the Mind,” Leonardo da Vinci (1452-1519).
Wandoline Simo is a Cameroonian. She graduated as an engineer in sciences and technologies of industries from ICAM-UCAC, one of the most famous school of engineering in central Africa. The school’s emphasis is on reliability of equipment. Students work as an engineer in training. (Note: the engineering program is a five-year program, based on three-month courses followed by three months of in the field development. School tuition is paid for by the company which is sponsoring you). Her last year of study was MBA studies.

She started her professional journey as a CMMS and warehouse lead. Meanwhile, she was looking for a position in the project control domain, as Wandoline had always been passionate about business improvement (decision making) through analysis, forecasting, etc. In seeking work in the domain of project control as an analyser/controller, she moved to the oil and gas industries and this gave her an opportunity to work in a stressful environment as daily job planner. Her duties included onsite job monitoring and making post job analysis and reporting. She was working as a training liquefaction operator with the focus of her duties involving quality assurance and control.

She kept her options open when an oil and gas market crisis hit. She was still curious to understand the ins and outs of decision making that was being done by investors and employers during this period. She wanted to understand how to maintain business profit and keep project growth occurring.

Her actual job position was challenging, so she began looking for opportunities to improve her knowledge and skills in that domains that were a match for her objectives. She accomplished this goal via online courses about chemical engineering, cost control, general management and general safety and hazard mitigation. In was through these courses that she found about AACE International.

She became an AACE International member. She joined South Africa Section as there was no available section in Cameroon. She undertook rewriting her resume to become a mentee through the Career and Mentoring Center. She joined the online AACE Communities, the Women in Project Controls, the Oil/Gas/Chemicals Special Interest Group (SIG) and the Project & Cost Control Subcommittee.

Wandoline is preparing for entry level AACE certification as a Certified Cost Technician (CCT). She is studying AACE materials, including various Recommended Practices, the TCM Framework, and the Skills & Knowledge of Cost Engineering. She wants to be well prepared for the CCT and possibly other certifications. Not yet certified, she is taking advantage of the skills and knowledge learned from AACE education products and group discussions to increase her performance. She is actively looking to work fulltime as a cost engineer.

Committed to continuing her education in the domain of engineering management, she is looking forward to remaining an active member of AACE for many years. Her goal is to be certified as a CCP, EVP, and CFCC when she meets all the requirements for these levels of certification.

Wandoline’s advice to young professionals or engineers in training who may wish to follow in her footsteps is, “It is never too late to start a new career. It doesn’t matter how many times you fall and start over again; the most important thing is to stay focused to your objectives. Perseverance and hard work will lead you to your final goal.”

Wikipedia indicates that Cameroon, officially the Republic of Cameroon, is a country in Central Africa. With French heritage, the custom is for last names to be listed in all caps. Wandoline Simo would be listed as SIMO. For this article, we use traditional US style of an initial capital letter followed by lowercase letters.

“It is never too late to start a new career. Perseverance and hard work will lead you to your final goal.”
Zach Hallstrom, PSP, is a planning and scheduling professional with nine years experience in the construction industry and currently works for Mortenson Construction in Seattle, WA. His diverse background includes roles as a superintendent, project manager, and scheduler involved in a varying degree of project types from data centers, bio-pharmaceutical laboratories, commercial, higher education, sustainable system installation, and healthcare. Zach has managed and developed schedules for projects ranging in contract value from $250 to $700 million. He holds an AACE International certification as a Planning and Scheduling Professional (PSP).

Zach grew up in a college town in North Carolina, the youngest of five children. This is where he fostered his love for sports and the outdoors, always outside in the summer months until the tail end of sunlight playing basketball or exploring the creek in his backyard. To further enjoy the outdoors, Zach enrolled at Appalachian State University in Boone, NC, a small town nestled in the Blue Ridge Mountains. A friend of his older brother introduced him to the Construction Management program where he became interested in a career involved with the building environment.

After earning a Bachelor of Science degree in Construction Management, he moved to the Rocky Mountains where he continued his passion for the outdoors and also worked in high-end residential construction specializing in sustainable systems. After a couple years of working in residential construction, Zach was interested in being involved with larger construction projects.

He was hired as an Assistant Project Manager for an electrical subcontractor working on a large-scale data center project with an electrical package contract value totaling over $200 million. This is where he was first tasked with managing a project schedule. Zach was thrown into the fire to learn a new software program and also work with 20 superintendents to manage the project schedule. He learned a lot about scheduling and construction, thanks to the project executive and mentor, Rick Provost, who helped with simple to complex questions.

After working for an electrical trade, Zach was interested in working for a general contractor to manage more scopes of work and larger projects. He agreed to work for Turner Construction, the former employer of his mentor at the data center project, in Boston, MA. Zach worked as a MEP Project Manager for another data center project, an assistant superintendent for a pharmaceutical lab space, and finally found himself back in the role of a scheduler.

As Scheduling Manager of the Boston business unit, Zach was responsible for training all staff in best scheduling practices and Primavera P6. Also, he managed and oversaw three schedule engineers and as a team, managed over 30 projects ranging in value from $20 million to $450 million. Seeking a change of environment, Zach was hired by Brasfield & Gorrie to develop and manage the schedule of a $260 million hospital back in the Blue Ridge Mountains of North Carolina.

After successfully planning and scheduling the hospital project, Zach took a new opportunity to work within another passion of his, the sporting world. He was hired by Mortenson Construction in their Sports and Entertainment business unit. Currently, Zach works as a Senior Scheduling Engineer leading the planning and scheduling of the Seattle Center Arena in Seattle, WA. The project has been tasked with supporting a 40-million-pound historical roof with temporary steel while excavating a deeper and larger building footprint to construct a new state of the art arena underneath the existing roof. The project poses many new and challenging obstacles the team will need to overcome to accommodate a WNBA team and new NHL franchise for Seattle.

Zach has been an AACE member since 2017, and recently obtained his PSP certification in May 2019. Also, earlier in the year, Zach joined AACE’s Rising Professionals Committee. He has found AACE’s white papers and Recommended Practices useful tools to develop professionally. Zach looks forward to attending his first AACE Annual Conference & Expo in 2020 and continuing his membership for years to come in his career.

His advice to young professionals in a scheduling career is that, “A schedule is only effective and accurate if the craft workers in the field can understand and implement the work properly. It is easy to get caught up in the technical aspect of scheduling but walking a project with the superintendent is one of the most valuable tools.”
The slate of candidates for the 2020 AACE International election for both the AACE Board of Directors and for the AACE Membership Board is announced by the Nominating Committee, chaired by Past President John Ciccarelli, PE CCP PSP FAACE. A bio and goals and objectives, as well as a photo is listed for each candidate if provided by the nominees.

The AACE membership has the option to add candidates by submitting a petition signed by 20 members in good standing before Dec. 15, 2019. To add a candidate or candidates by petition, the petitioners must obtain a signed written agreement from the candidate that they accept being added as a candidate and that they will serve if elected. Included with the petition submission must be a bio, goals and objectives and a photo of each candidate being added by petition. The AACE Nominating Committee will review any petitions and determine if any potential candidates meet the requirements to be added as a candidate.
The slate of candidates will be posted at the AACE website and will be published in Source magazine. Electronic voting will begin February 1, 2020 and continue through 4 p.m. Eastern Time on March 15, 2020 at the AACE website, web.aacei.org. Dues paid AACE members as of Dec. 31, 2019 will be eligible to vote by logging in with their username and password. A six-digit AACE ID is required, if your member number does not have six digits, add zeros in front of your member number to make it a six-digit ID.

Contact AACE Executive Director/CEO Charity Quick at cquick@aacei.org for information on how to submit any petition to add a candidate or candidates prior to the Dec. 15 submission deadline.

The AACE Bylaws call for a bio, goals and objectives and photo of each candidate to be provided to the membership by November 15 to give the membership time to review the Nominating Committee’s slate and to file any petitions to add candidates prior to the December 15, 2019 submission deadline.

Following are candidate bios, goals and objectives and photos as submitted by the candidates. Some candidates opted to submit longer bios and little or no goals and objectives and/or a photo.

**ADDING CANDIDATES BY PETITION**

The AACE Bylaws provide the membership the option to petition to add candidates. The Bylaws, Article II, Section 4, reads: “Other nominations for the office of Director, or the office of an Officer of the Association, except for the position of Vice President Technical Board, Vice President Education Board and Vice President Certification Board, may be made by petition signed by at least 20 members in good standing. The petitioners shall be responsible for (a) obtaining in writing the agreement of the nominee to serve if elected, (b) securing the biographical data of the nominee, (c) submitting the petitions, the agreement, and the biographical data to be received by the Vice President-Administration no later than December 15th of each year. Each candidate’s name and biographical data shall be made available to the membership no later than December 31st of each year.”

**TO VOTE, MEMBERS MUST CAST A BALLOT ELECTRONICALLY ON OR BEFORE 4 P.M. EASTERN US TIME ON MARCH 15**

Election of officers and directors will be by use of an electronic ballot. The official election ballot for officers will be posted and available to each member and associate member on February 1, 2020.

Members will link to the voting site from the AACE website homepage. Once at the site, members will use their member ID and password to access the ballot and vote. A six-digit ID is required. If your AACE ID number does not include six numbers, just add zeros in front of the ID to make it a six-digit ID.

Each voter shall properly signify on the ballot the voter’s choice for the various officers. A security feature of the electronic voting system allows members and associate members to vote only once. A voter can print out a receipt that will include an individual verification number as proof of having voted.

For election of Directors-Region(s), these candidates will be listed as a continuing or additional page for members or associate members in the regions electing candidates during the 2020 election. Each voter shall properly signify on the ballot the voter’s choice for the director.

Any member or associate member with questions or other concerns is asked to contact Headquarters for assistance.

Voting will end as of 4 p.m. Eastern US time on March 15, 2020. The electronic system will block any voter from casting a ballot after 4 p.m. on March 15, 2020.

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**PRESIDENT-ELECT UNOPPOSED**

**JAMES E. KREBS, PE CCP FAACE**

Jim has been an active member of AACE International since 1986, all as a member of the Great Lakes Section having served as President, along with various other board positions. For his dedication to the Great Lakes Section, Jim earned the Charles V. Keane Distinguished Service Award. Jim achieved the rank of Fellow in 2012 and was awarded the O.T. Zimmerman Founder's Award in 2019. Jim served on the Association Board of Directors as the Director of Region 4 in 2008 and 2009, and the Vice President of Administration in 2015 and 2016. Jim has presented papers and training sessions at AACE Conference & Expos and quarterly board meetings.

Jim's education includes a BS in civil engineering and a business degree from the University of Illinois and DePaul University, respectively. Jim has over 33 years of project management, project controls, and construction experience including planning, scheduling, estimating, cost controls, claims analysis and testimony, field supervision, and administrative services. His experience includes automotive, heavy construction, nuclear power, light manufacturing, refineries, and industrial projects. Beyond traditional project management, Jim has developed and implemented a computerized application for integrating cost and schedule control for a large engineering department; provided expert witness testimony for claim; written a project controls procedures manual for a major construction project; and prepared data for utility rate cases.

**GOALS AND OBJECTIVES:**

As an active member of AACE for over 30 years, I have gained a deep respect for AACE, its members, and staff. My prior leadership positions within AACE has given me an appreciation for the hard work, care, and passion of the dedicated volunteers that give of their time and talents for the good of AACE and the profession. To honor our volunteers, AACE must thrive and provide the highest quality technical products, comprehensive educational offerings, and unparalleled certification program. The Association needs strong and effective leadership. As the President, I will strive to:

- Work closely with the Executive Director, staff, and the Board of Directors to support and strengthen effectiveness and efficiency of the Association;
- Continue the existing efforts that are working to add value to the membership;
- Promote AACE in all regions to expand our membership, looking for new ways to reach cost engineers that would benefit from AACE membership;
- Expand the value of AACE through its body of knowledge, certifications, career development, and networking;
- Support the evolution of AACE events and activities to better serve our members in an ever-changing world with evolving ways to communicate and work;
- Assist in identifying ways to attract and energize the next generation of AACE leaders;
- Continue to be an advocate for active membership, annual conference attendance, technical and educational product development, and certification advancement;
- Strive to give back to the members and the profession the same benefits I have received for over three decades.
PATRICK M. KELLY, PE PSP
Patrick M. Kelly is a construction claims analyst and testifying expert with more than twenty years’ experience. In his career, Patrick has been a US Navy Civil Engineer Corps officer, a contract & construction manager, and a scheduler & project controls manager. He has worked on both large and small projects – for contractors and owners – on transportation & infrastructure, shipbuilding & ship repair, hotels & condominiums, and government & public facilities. He is an expert in project controls, Critical Path Method scheduling, earned value analysis, and forensic schedule analysis for delay and disruption. With this experience, he has qualified and testified as an expert in the US and internationally. He is a Professional Engineer and is certified as a Planning and Scheduling Professional by AACE. He has also written and published many articles on scheduling and Forensic Schedule Analysis and provided training on both software and CPM methodology to schedulers, analysts, and construction professionals. During his career in construction, Mr. Kelly has relied on the superior papers and Recommended Practices developed by AACE, and as a result he joined in 2007, and earned his certification as a Planning and Scheduling Professional in 2008. Since then, he has been actively involved in AACE, by submitting papers for publication in Cost Engineering journal and presentation at the Annual Conference & Expo. Additionally, Mr. Kelly held the Chair of the Claims and Disputes Resolution Technical Subcommittee for three years, served on the Board of Directors as Director, Region 2 for two years, and is currently finishing a term as Vice President Finance. His deep respect for AACE's mission and superior technical content drives him to continue to seek ways to serve the organization and further its goals.

GOALS AND OBJECTIVES:
If elected, Mr. Kelly intends to facilitate growth and professional development among cost engineering professionals by:

• Building upon the momentum that we have created in ensuring the continued financial success of AACE.
• Providing effective support for the conduct, control, and reporting of financial transactions in accordance with generally accepted accounting practices (as provided by Headquarters).
• Coordinating closely with Manager – Accounting and Administration and the Executive Director on financial matters.
• Providing timely, clear and concise communications to all stakeholders with regards to income, expenditures, forecast and balances for the prior reporting period.
• In coordination with all relevant parties, preparing annual budgets that further the goals of AACE in the coming years.
• Maintaining awareness, and monitoring when appropriate, operations to ensure that AACE achieves its organizational goals and fulfills its vision of becoming the gathering place and source of thought leadership for professionals who drive successful project and program delivery.

FELIX SOTO, EVP PSP
Felix is a highly sought-after senior consultant in the AEC sector, having worked with almost all main companies established locally. Joining his work experience in an important construction company and as an independent, he has 23 years of career doing consulting on infrastructure projects, mining, buildings, transmission lines and industrial plants. Felix has an excellent background in planning, scheduling, control and project management, which has led him to become in witness expert and quantum & delay analyst in construction claims.

Felix has played many roles in the Peruvian AACE Section among them as President and he is currently a member of its Board of Directors permanently.

GOALS AND OBJECTIVES:
Having developed my whole professional career based on AACE knowledge, I have become a natural promoter for AACE’s products, services and programs. One of my main goals, not only for this election but for life is to make AACE globally recognized as the champion for Cost Engineering and Project Controls. As AACE has grown over the years, it should continue to set the standard on these matters. To make our organization even better, I plan to:

• Building upon the momentum created by my predecessor
• Provide timely, clear and concise finance reports to all stakeholders in order to make timely decisions supporting institutional goals.
• Assist regional directors and section presidents with improving section’s management. This involves addressing inactive sections and challenging strong sections with new goals.
• Continue to come up with ideas that will help AACE to be the number one institution in Project Controls all around the world.
• Increase the awareness and benefits of AACE and the certification program
• Support regional translations of the main AACE products to strengthen local understanding and therefore increasing membership and retainage of membership of the region.

This nomination means a lot in my professional career and I will not consider it as a job but as a payback to the institution that has given me so much.
SANDRA MEJIA-VILLEGAS, P.ENG.

Sandra was born and raised in Medellin, Colombia. She is currently located in Vancouver, BC and she has been living in Canada for more than 12 years. Sandra obtained her bachelor’s degree in Mechanical Engineering from Universidad Pontificia Bolivariana and her Master of Science in Project Management from George Washington University in Washington, DC.

Sandra’s experience includes Cost Control Analyst at ConocoPhillips Canada, Cost Analyst at Turner Construction and currently, Sandra works for Parkland Refining BC as Project Cost Control Analyst.

AACE International has great meaning for Sandra. All the training, seminars and webinars taken have showed her the beauty of the project controls field. AACE International offers numerous professional resources through recommended practices, online training, webinars, mentorship, technical articles, local section’s meetings and workshops, as well as networking opportunities, which are valuable to any professional in the field. Sandra is currently serving as the chair of the mentorship committee and she was previously the co-chair for Women in Project Controls Committee. Sandra is also a contributing member of the Latin America Task Force, the Raising Professionals Committee and was part of the Vision 2020 committee. She feels that the exposure to highly experienced and passionate professionals gives her the courage and support to succeed in this field, as well as enhance her leadership skills in order to continue developing her career.

GOALS AND OBJECTIVES:

My main purpose on this role is to put all my energy and enthusiasm into our members’ best interest because our association only exists due to the contribution that is offered to all of you.

• Communicating with AACE leadership about current Canadian membership needs/gaps. Always focusing on what creates the most value for our members.
• Analyze and challenge existing strategies in order to stimulate members to actively participate with the association initiatives.
• Support all the programs, products, education and services that the association has for its members.
• Focus on strategy for the future of AACE Canada sections.

MUSTANSIR RAJ, P.ENG. CCP

Mustansir is an active member of AACE since 1994. He has a passion for project control and is very involved in his local Calgary Chinook Section, where he has served as Section President in 2004, 2016 and currently serving as Director of Certification. He has also served as Director Region 1 (AACE Canada President) in 2005.

He was a member of AACE Technical Board and CEP Certification Task Force in 2005. As an instructor, he has facilitated numerous CEP, CCP and S&K workshops for the Chinook-Calgary Section.

Mustansir is a Professional Engineer with over 25 years of experience in construction management, cost estimation and project controls for petrochemical and oil & gas industries. He has worked with Klockner (KHD), Saudi Basic Industries (SABIC), Bantral Canada, Jacobs Canada, Devon and Altran in various positions from project engineer to manager of estimating. He moved to Canada in 1998 and is currently working as a senior estimator with Canadian Natural Resources Limited (CNRL). He is a certified Competent Toastmaster (CTM), Competent Leader (CL) and served as the Area Governor-Region 1 of Toastmasters International. Mustansir is active in community services for Mustard Seed Drop-In Center, Interfaith Food Bank and is serving on the Board of Directors of the registered charity, Canadian Global Care (CGC) Society.

GOALS AND OBJECTIVES:

As Director Region 1, I will take initiative to promote and grow the organization. I will be committed to building a better and more inclusive organization. I will:

• Encourage synergy and teamwork across all Canadian AACE sections in order to achieve common goals, and work to build more efficient processes.
• Bridge any communication gaps between regional needs with AACE leadership.
• Communicate the important advantages and benefits that comes with being an AACE member, through promotion of its industry grade knowledge, and access to a network of seasoned professionals.
• Grow and nurture connections with wider professional communities to help build opportunities for cross-functional knowledge sharing, team building, and collaboration. This will also support new potential members and new graduates entering the workforce.
• Promote AACE awareness and professional development efforts through networking with partner organizations, planning events and presentations at universities and businesses, and social media engagement strategies.
• Assist AACE members in professional development through workshops and webinars.
• Highlighting and promoting the various advantages of completing AACE’s international certifications.
MICHAEL J. BENNINK, PE CCP PSP PMP
Michael has been an active member of AACE International since 2002 and is currently the President of the New Jersey Section. He holds the CCP and Planning and Scheduling certifications, is a licensed professional engineer in New Jersey and Pennsylvania, and is a Project Management Professional. Michael has made numerous presentations at section meetings, the Region 2 Symposium, and the Annual Meeting. He is currently an active member of the Region 2 Symposium planning committee and is a past member of the Association Certification Board. His professional expertise focuses on claims and dispute analyses, forensic cost and schedule assessments, and project controls focused engagements. Michael is currently a Vice President at JS Held based out of New York and recently finished his term as President of the New Jersey Society of Professional Engineers. He has a BS in mechanical engineering from RPI and an MBA from Monmouth University.

GOALS AND OBJECTIVES:

• First and foremost - support the Region 2 sections and unaffiliated members administratively and provide a leadership role for section and member collaboration.
• Work to ensure the continued success and growth of the Region 2 Symposium by capitalizing on the strong leadership and extensive contributions of the organizing committee members, extensive knowledge base of the presenters, and generosity of the corporate sponsors.
• Ensure the Region 2 Symposium is aligned with the goals and requirements of the Association.
• Seek to develop new opportunities for the voice and development of rising professionals in region and section events and leadership.
• Locate opportunities to collaborate with other professional organizations on a region and local basis.
• Encourage the expansion of the use of platforms such as webinars and virtual meetings to facilitate technical development.
• Facilitate the sections ability to reach out to un-affiliated members to encourage section alignment.
• Work closely with the Board of Directors and the Associate Boards to support and communicate the Association’s goals and objectives.
• Serve as communications liaison between the Membership Board and the Region 2 sections.

PRAD MARAJ, PE PSP
Prad Maraj, PSP, has more than 36 years of construction management experience in project controls for transportation, facility and infrastructure rehabilitation projects. He manages a JMT’S project controls practice. He is the Past President of the Baltimore Section of AACE and Past Co-Chair of the Claims and Disputes Resolution Committee. Mr. Maraj has also developed and conducted training courses on CPM scheduling, claims analysis and prevention for various public agencies. Since obtaining certification, Prad has relied on AACE Recommended Practices to guide his practice and understands the importance of keeping the organization a vibrant and valuable resource to the industry. Having both international and domestic experience in construction, Prad is keenly aware of some of the challenges facing younger AACE members in becoming engaged, both in the USA and internationally.

GOALS AND OBJECTIVES:

• Foster a culture of engagement in Region 2
• Provide a roadmap to increasing member participation by outreach to schools
• Assist section Presidents to attract rising professionals
• Offer scholarships to local colleges
• Establish a mentorship program.
DAYNA ANDERSON
Dayna Anderson has worked in project controls for over 16 years. She is co-founder and Senior Partner of Breakwater Forensics LLC, headquartered in Chicago. Her work as an expert witness includes analyzing construction cost overruns and schedule delay claims, as well as counseling subcontractors, contractors, and owners on project controls recommended practices. She has worked on both small and mega construction projects ranging from residential housing to oil refineries and power plants in national and international forums. As former President of the AACE Chicago-Midwest Section and a Board member for many years, she is very familiar with AACE’s overarching goals and objectives.

GOALS AND OBJECTIVES:

• Increase AACE membership.
• Encourage local section outreach to other relevant construction-based organizations to facilitate joint meetings, which will increase the visibility of AACE.
• Encourage campus outreach to grow student membership. My experience as an Institute of Management Accountants Campus Influencer will allow me to expand AACE’s current program.
• Increase the diversity of the local section membership and leadership.
• Increase communication between local, regional and national leadership.
• Encourage local sections within Region 4 to have quarterly calls/meetings to share ideas for local and regional meeting content.
• Gain an understanding of national initiatives and assist local sections to successfully implement.
HAYA S. SALEH, PSP

Haya S. Saleh, PSP, is a planning, scheduling and claims consultant with almost 19 years of rich experience in construction industry especially in scheduling and delay analysis. Haya became a member of AACE since 2007 and she has maintained her membership ever since.

Haya holds a MSc. degree in Industrial Management and B.Sc in Civil Engineering from the University of Jordan; she is a Certified Project Manager (CPM), certified (Planning and Scheduling Professional (PSP-AACE/USA), and Associate Member Chartered Institute of Arbitrators (CIARB).

Haya is currently the General Manager and Founder of MESC, a construction management entity in Jordan. Haya started working in contracts, claims and delay analysis in 2003; during which time she worked as a scheduling and claims consultant in a large number of local and international projects.

Haya was a part-time instructor at the University of Jordan, and a trainer at the Jordanian Engineers Association, she has clocked more than 4,200 training hours in the area of planning and scheduling.

She is currently the President of AACE Jordan Section, a position she has held since 2017, and she has delivered more than 15 free seminar, workshops and training during 2018 under the name of the Jordan Section umbrella to promote AACE International in Jordan.

GOALS AND OBJECTIVES:

- Increase the awareness and the importance of AACE’s credentials and certifications.
- Increase the knowledge and skill level for the fresh graduates.
- Encourage universities, colleges and professional associations to have AACE’s courses and seminars within their curriculum and programs.
- Increase the membership in the region by encourage professionals to be a member of AACE and increase the members’ contribution to improve the region and local sections.
- Make a yearly plan for AACE activities in Region 7.
- Address educational and professional challenges in Region 7 and to be sure to meet AACE’s objectives.

LUCIA VERNON, PSP

In 2016, Lucia accepted the invitation to be part of the AACE Qatar Section Board of Directors in the role of Director of Marketing and Publicity. In 2017, she became President-Elect which was the precursor to the taking on the President role for the 2018-2019 period. In her previous roles Lucia helped the organization to host regular technical workshops, she delivered the workshop ‘Practical Training – Windows Analysis’ and helped the team to organize best practice events with industry experts to further enhance awareness of AACE International amongst professionals in the State of Qatar and the Middle East. She recently developed the recommended practice paper for AACE (CDR.2849) ‘Time Impact Analysis in Windows - Concurrency Analysis’ which was accepted for presentation at the AACE Annual Conference & Expo 2018 in San Diego, USA.

In her professional life she holds the position of Forensic Planning Director working for Quantum Global Solutions as a delay analyst with 13 years’ experience in carrying out all types of forensic delay analyses in several different countries. Recently she has been managing the planning department.

She has a sound working knowledge of planning software programs including MS Project, Primavera P3 and P6 and forensic guidelines such as AACE Recommended Practice 29R-03. She has used these expert skills across multiple sectors including hotel development, football stadia, convention center, power station construction, water and wastewater management, infrastructure, petro-chemical development, nuclear power and building construction. Lucia has an RICS recognized ‘Legal Experience Training Advanced Professional Award in Expert Witness Evidence (LETAPAEWE) accredited by Pearson Learning at a level 7 (Masters level) BTEC.’

She consistently takes a proactive approach and has good interpersonal skills which are essential elements that enable her to produce the required analysis schedules for claims and produce high quality and consistent results.

She believes that, a big part of her success story is due to reading the documentation available on the AACE International portal, being informed and adopting the knowledge which AACE offers to professionals around the world. She believes in the motto “Work hard, follow your dreams and they will come true.”

GOALS AND OBJECTIVES:

One of the main goals for myself will be to unify the Region 7 members, to give everyone the opportunity to see the benefit that AACE brings to its members in other parts of the world. Also, it is important that our organization is supported by the state authorities in the Middle East so that our members will be recognized for their knowledge that they gained from AACE membership.
JOHNSON AWOYOMI, CCP CEP
Engr. Johnson Awoyomi is the Group General Manager Engineering and Technical Division, in Nigerian National Petroleum Corporation (NNPC). He graduated from the University of Ife with a bachelor’s degree in chemical engineering in the mid ‘80s. He was the Senior Technical Assistant to Hon Minister of State for Petroleum Resources Nigeria. He oversaw transparency, accountability and efficiency (cost and contracting cycle issues, performance management, etc.) in the oil sector. His career journey in NNPC has run through NETCO, Nigerian Content Division, Transformation Office and Cost Engineering Division. He is a PMP; a COREN registered engineer and belongs to many professional associations. He is President of the AACE Nigeria Section. He has organized two Nigerian Section Annual Meetings (Lagos 2017, Abuja 2018, and the 2019 edition is scheduled in Portharcourt). He is a CCP and CEP. He has mentored cost professionals. He is a recipient of many awards He is a writer and presenter. He is a grader of the CCP memo since 2017. He is married with three children.

GOALS AND OBJECTIVES:
My goals and objectives will include, but not limited to:

• Entrenchment of AACE Total Cost Management (TCM) principles in the management of capital program in my region by engaging key stakeholders on the value and benefits of deploying TCM. This approach is working currently.
• Growth: The growth of sections in the Region will be my priority – through publicity of the benefits of membership.
• Annual Conferences: I will ensure that each Section in the Region continues to have its own Annual Conference and encourage other Sections to start doing this.
• Regular Meetings and Effective Communication: Will encourage and ensure regular meetings or telephone calls.
• Capacity Development: I am going to encourage technical activity capacity development within the Regions by having regional workshop/seminars, etc., at least once year.
• AACE Certification: Will encourage each Section president to have a goal to increase the number of AACE Certificants in their respective Sections yearly. This will be supported by deliberate AACE Certification program.
• Attendance at AACE Annual Conferences: I am going to put in place a mechanism that will enable massive participation of our members at the AACE Annual Conferences.
• Will encourage our members to be active in presentation of technical papers at both the regional and AACE Conference & Expo; Maintaining a strong technical and educational program; Establishing local technical study groups and Coordinating technical committee activity at the Section level with the various AACE technical committees. Teamwork: I am going to work collaboratively with each of the Section Presidents to ascertain their problems and concerns and assist in resolving them. Outreach programs for both students and young graduates; Collaboration with other professional bodies; Creation of new sections as may be required.

JOAO PAULO MATOS DIAS, PSP
Mr. Dias is a certified Planning and Scheduling Professional by AACE International. He has developed his academic interests in heavy infrastructures through the Integrated Master’s Degree in Civil Engineering at the University of Coimbra, Portugal, between 2004 and 2009. Further interests in Construction Management led him to complete a Postgraduate Diploma in Project Management at the University of Lisbon, Portugal, in 2012.

Mr. Dias is a chartered Civil Engineer with approximately 10 years’ experience. Throughout this period his responsibilities included Planning, Scheduling, Cost Estimation and Control, and Change Management, performed in some of the world’s largest construction companies and in large-scale international infrastructure projects at tender and/or construction stages.

His whole career has been developed in several different countries in Europe (Portugal, United Kingdom, Netherlands, Lithuania, Latvia and Estonia), Africa (Algeria, Cameroon, Congo and Niger), Central America and the Caribbean, where he had the chance to be the counterpart of key stakeholders namely from major subcontractors, governmental clients, international consultants, among others, which has given him a truly global perspective of the construction markets and business.

GOALS AND OBJECTIVES:
• Consolidate the current Sections in the region, promoting more dynamism and networking opportunities.
• Promote the creation of new Sections in the region.
• Add greater added value to the memberships in the region, through integration activities between Sections and members, as for example: shared webinars, workshops, regular communications, etc.
• Seek greater benefits for the members of the region in relation to third party conferences and workshops, and potential other discounts.
• Implement a clear and integrated marketing strategy to attract new members in the Sections of the region, showing the benefits of belonging to the organization.
• Promote partnerships with other key organizations/association, universities and relevant working groups.
• Promote the TCM Framework and Recommended Practices across the industry and academic institutions.
• Facilitate the communication between young professionals in the region and the Rising Professionals Committee.
Iftikhar ("Ifti") Kamil Madni
1948 – 2019

Editor’s Note: Ifti’s daughter, Mahvash Majeed, wrote the following memorium to share with the AACE International colleagues and friends of her father. In addition to having been a longtime AACE International member, Ifti was a contributor to two AACE International Recommended Practices and authored several technical papers published in the Cost Engineering journal and Source magazine.

Iftikhar (“Ifti”) Kamil Madni, CCP, was a brilliant, joyous, and dedicated member of his community. He was born in Bombay, India in 1948, and passed away in Hyderabad, India, in 2019.

Ifti graduated from the Indian Institute of Technology, Bombay, a world-renowned engineering college. He began his career in 1974, working on projects that took him all over the world, from India to Iran, Sudan, the United Arab Emirates, and finally the United States—where he spent most of his time. He lived and worked in the United States until 2006. During these peak years of his life and career, he grew to truly love and cherish becoming an American. This is where he raised his two daughters with his wife of 43 years, Adila.

He worked for various companies in New Jersey, New York, and Pennsylvania—though his most notable contribution was for Promatech Incorporated in Riverside, NJ. It was at Promatech where he launched the Estimating Department and worked as Chief Estimator.

He also was the Senior Consultant for Faithful and Gould in New York City, where he estimated airport projects for Dulles, Newark, and JFK International airports. He also worked on school, residential and commercial projects in New York City.

During the years living in New Jersey, he served as President of the New Jersey Section of AACE International. Under his leadership, the NJ Section won the superior performance award at the annual convention in Washington, DC.

His love for experiencing new cultures and meeting new people led him abroad once more. He again rose to become a fearless leader as Chief Estimator for Bechtel in Qatar, as well as Jacobs in Saudi Arabia. It is this innate interest in learning and a natural ability to blend into his environment that led him to become fluent in four languages and enjoy even greater success in new countries.

Ifti enjoyed writing and shared his research and knowledge through technical articles, of which he wrote several for the construction industry. He also created Cost Digest – a quarterly construction newsletter. Ifti voluntarily assisted engineers in preparation for the certification course in estimating through the New Jersey Section of AACE International.

Ifti’s love of learning and teaching wasn’t limited to the workplace. As a father, he spent hours reviewing his two daughters’ math and science courses with them. They could tell you that this was not an easy task for Ifti, as it was met with a fair amount of resistance on their end. After all they didn’t find theorems and equations quite as delightful and enjoyable as he did. But the most valuable lesson that he taught them was a dedication to learning and working hard to pursue great things.

Today, Arshia is a pediatric palliative care specialist and hospitalist at St. Jude’s Children’s Research Hospital in Tennessee and Mahvash is a community pediatrician and clinical instructor in New York.

Ifti’s family most fondly remembers him being home with them every night. He would often wake up the family with a Sunday breakfast consisting of his famous oily garden omelet and tea.

He did a majority of the morning drop offs to school and was sitting front and center at every spelling bee, honor society induction, back to school night, and graduation ceremony.

Ifti and his family loved to travel and spent holidays all around the globe in countries like Spain, Morocco, Turkey, Greece and England to name a few.

Ifti’s family, friends, and colleagues appreciated him as a caring person who wished the best for everyone. He had a great sense of humor and was always smiling. Even a grocery store run meant an interaction with someone who couldn’t help but find that smile of his to be infectious. He was always calm and positive, seeing the glass as half-full even in the toughest of situations. Even in his times of illness, his hospital visitors would be greeted with a bright smile.

Although his physical health led him into an early retirement, he kept himself busy with a few projects. He was working on “Love is Blind” and other short stories prior to his passing. He loved to read, particularly PG, Wodehouse novels. He recently became a Netflix fan, enjoying shows like Blue Bloods and Law and Order.

For Ifti, whether it was a hot cup of coffee or tea, a wholesome meal, a good book, or great company he just wanted to share smiles all around. His colleagues, family, and friends truly have a great sense of loss today, of this pure and patient soul. He surely is peacefully resting today knowing that when we think of him, we can’t help but smile. ☺
Evaluating Project Performance Using Baseline Schedules

BY DR. NOUR EL IMANE BOUHOU; ANTOINE BECHAALANI; KELLY PETTERSEN; AND DR. MARCELO AZAMBUJA

ABSTRACT
Most construction companies use deterministic planning models and historical data to develop a baseline schedule. However, deterministic methods may not capture all project conditions that might affect project performance. Construction projects may be impacted by flawed baseline schedules that produce unreasonable forecasted completion dates. Accordingly, the development of a reasonable baseline schedule is a challenge for construction professionals. The purpose of this article is to identify and evaluate a variety of project schedule indicators to determine whether a correlation exists between project performance and the project baseline schedule. Based on actual data from more than 40 projects, over 15 schedule indicators were evaluated including, but not limited to, unique activity ID and names, percentage of missing logic relationships, percentage of high activity duration, excessive use of constraints, and percentage of lags and leads. Ultimately, this article provides guidance that can aid schedulers in developing reasonable baseline schedules and focus on critical indicators to anticipate project performance. This article was first presented as PS.2961 at the 2018 AACE International Conference & Expo.

INTRODUCTION
Most construction companies use deterministic planning models and historical data to develop a baseline schedule. However, deterministic methods may not capture all project conditions that might affect project performance. Construction projects may be impacted by flawed baseline schedules that produce an unreasonable forecasted completion date. Accordingly, the development of a reasonable baseline schedule is a challenge for construction professionals. Some software programs, authors, and agencies use certain metrics to check the integrity and validity of the project schedule. The title “Health Check” is relatively common for such checks and some of these metrics are [6, p. 77]: missing predecessors, missing successors, redundant relationships, inaccurate lags, dangling activities, number of constraints, missing status, out of sequence activities, and excessive float. The most famous check is the DCMA 14 which
was developed by the U.S. Defense Contract Management Agency (DCMA). The DCMA 14 contains a 14-point assessment that is part of quality standards for schedules and has been adopted by several organizations and software programs to assist in ensuring well-built plans. Metrics have been developed to monitor schedule and cost performance and to forecast schedule slippage based on actual project progress information [1, 4]. However, there are still opportunities to investigate if a reasonable forecast can be made using baseline schedule data.

Choi and Gonzales [2] conducted a comprehensive literature review and identified over 100 quantitative metrics to correlate a project’s performance to its baseline schedule. Their study analyzed a list of 27 industry-recognized metrics to determine if schedules were fatally flawed or represented a reasonable forecast. However, the number of schedules analyzed was very limited and additional case study projects were required to develop effective quantitative schedule quality metrics and thresholds [2, p. 14]. In addition, according to Choi and Gonzales, research is needed on setting the proper threshold for each metric. Based on their literature review, industry metrics appear to be somewhat subjective, rule-of-thumb, or based on the experience of the organizations/authors [2, p. 14]. These research needs clearly indicate a significant gap in the body of knowledge and served as motivation for this study.

This article identifies and evaluates a variety of project schedule indicators to determine whether a correlation exists between project performance and the project baseline schedule. Based on actual data from more than 40 projects, over 15 schedule indicators were evaluated. This study also provides insights of the correlations between the schedule indicators and the project schedule performance (i.e., project delays). Ultimately, the purpose is to aid schedulers in developing reasonable baseline schedules and focusing on critical indicators to anticipate project performance.

METHODOLOGY

A literature review and analysis were performed to select and compile schedule metrics (Industry Metrics) relevant to the evaluation of a baseline schedule. The referenced information was imported into a table and rows were added when a new metric was found. In addition, a range of projects were collected. These projects were then classified based on their delay quantum into separate groups.

The Industry Metrics for each project were analyzed using a similar methodology to Choi and Gonzales [2]. The process was as follows:

- Collect baseline schedules for selected projects.
- Metric values were calculated using the XER toolkit software and Excel functions.
- All metric values were compiled into a spreadsheet (.xlsx) format.
- Each metric value was reviewed and compared to the recommended Industry Metric thresholds identified during the literature review process.
- Any metric value that met the Industry Metric recommendation was labeled as “Pass,” whereas any metric value that was not within the Industry Metric threshold was labeled as “Fail.”
- The number of “Pass” and “Fail” metrics for each project schedule were tabulated and analyzed.

METRICS SELECTION AND COMPILATION

Industry Metrics appearing within multiple sources and publications were identified, selected and categorized. The literature review revealed 18 quantitative Industry Metrics with recommended thresholds appropriate for analyzing a baseline schedule. Industry Metrics that are typically used in the evaluation of schedule updates or those that do not have a recommended threshold within the researched literature were excluded. Table 1 provides a list of the Industry Metrics, a brief description of the Industry Metric, and the selected threshold.

In addition to the 18 Industry Metrics, projects were also evaluated for planned and actual project cost and duration. While project duration information was captured for most projects based on a review of the project schedules, the planned and actual cost information was not available for all projects. As a result, the cost data could not be used in the analysis as it relates to the baseline schedules but should be considered as an area for future research.

PROJECTS COLLECTION AND CLASSIFICATION

Over 180 projects in total were collected. The project information was reviewed, organized and classified. The selected projects represent various types of industries including commercial, education, industrial, and residential. Some projects were excluded from the analysis due to:

<table>
<thead>
<tr>
<th>No.</th>
<th>Industry Metric</th>
<th>Industry Metric Description</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Activity ID (Unique)</td>
<td>Every activity should have a unique identification number</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Activity Name (Unique)</td>
<td>Every activity should have a unique name</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Activity Codes/ WBS/Reference Code</td>
<td>Every activity should have an activity code which includes a WBS by location, floor, phase, etc.</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Ratio of Detail Activities to Milestones</td>
<td>A rough indicator of the level of planning detail</td>
<td>Low&lt;2, 10=High</td>
</tr>
<tr>
<td>5</td>
<td>Milestones Missing Predecessor or Successor</td>
<td>Every Milestone should have at least one predecessor and one successor</td>
<td>100% (Except project start and finish)</td>
</tr>
<tr>
<td>6</td>
<td>Milestones with Resources</td>
<td>Milestone must not have resource assignments</td>
<td>0%</td>
</tr>
<tr>
<td>7</td>
<td>Milestones with Duration</td>
<td>Milestones must not have a duration</td>
<td>0%</td>
</tr>
<tr>
<td>8</td>
<td>Start and Finish Milestones</td>
<td>A project start milestone &amp; a project finish milestone must be present in the schedule</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>High Duration</td>
<td>An activity greater than 44 working days (2 months)</td>
<td>&lt;= 5%</td>
</tr>
<tr>
<td>10</td>
<td>Project Calendar</td>
<td>At the project level, project calendar must constitute the primary or default calendar for the project</td>
<td>Yes</td>
</tr>
<tr>
<td>11</td>
<td>Holidays</td>
<td>Holidays and other exceptions are assigned in the calendar</td>
<td>Yes</td>
</tr>
<tr>
<td>12</td>
<td>Activities Missing Predecessors or Successors</td>
<td>Every activity should have a predecessor and a successor</td>
<td>&lt;= 5%</td>
</tr>
<tr>
<td>13</td>
<td>Activities on Critical Path</td>
<td>A schedule should not be overly simplified - there should be an adequate number of activities on the critical path</td>
<td>Between 15% &amp; 20%</td>
</tr>
<tr>
<td>14</td>
<td>Constraints %</td>
<td>Significant number of constraints in the schedule</td>
<td>&lt;= 5%</td>
</tr>
<tr>
<td>15</td>
<td>Unresourced Tasks</td>
<td>All activities with durations greater than zero [0] should have cost or hours assigned</td>
<td>&lt;= 20%</td>
</tr>
<tr>
<td>16</td>
<td>High Float</td>
<td>An activity with total float greater than 44 working days</td>
<td>&lt;= 10%</td>
</tr>
<tr>
<td>17</td>
<td>Lags</td>
<td>A lag shall not be used or used rarely</td>
<td>&lt;= 10%</td>
</tr>
<tr>
<td>18</td>
<td>Lead</td>
<td>A lead shall not be used or used rarely</td>
<td>0%</td>
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TABLE 1 Industry Metrics Descriptions and Thresholds
• Inadequate information and project type, including but not limited to damage analysis, cost estimation or standard of care projects.
• Insufficient baseline information where the project did not have a baseline or the baseline schedule was in PDF format. Baseline schedules in PDF format could not be analyzed due to the inability to view logic relationships, resource assignments, project calendars and other schedule details.
• Insufficient project schedule information where the project was not completed. Projects that were not completed could not be analyzed due to the inability to quantify the final delay or gain incurred on the project.

In total, 46 projects were selected based on the criteria that a baseline schedule was available in P6 or MS Project format and had completion dates. The selected 46 projects correspond to the construction industry sectors, as shown in Table 2.

The planned durations of the 46 selected projects range from 107 to 1,439 calendar days. The schedules were developed between 2006 and 2015, with the projects being completed between 2009 and 2017.

The 46 projects were then classified into three groups based on the average percentage of delay relative to the planned project duration. This was calculated by taking the proportion of the total project delay over the total planned project duration. The three groups were determined as follows:

- Group 1 was any project that experienced less than or equal to 10% schedule delay.
- Group 2 was any project that experienced greater than 10% schedule delay, but less than or equal to 30% schedule delay.
- Group 3 was any project that experienced greater than 30% project schedule delay.

The 9 projects in Group 1 had an average of 3.81% schedule delay. The 11 projects in Group 2 had an average of 20.17% schedule delay. The 26 projects in Group 3 had an average of 68.13% schedule delay. The minimum schedule delay experienced by all projects was 0%, or an on-time project delivery, and the maximum schedule delay experienced by all projects was 160.75%. Of the 46 projects analyzed, two projects were delivered on-time and five projects experienced a schedule delay greater than 100%.

SCHEDULE QUALITY METRICS ANALYSIS RESULTS
Projects were sorted by schedule performance group and categorized into three groups. Nine projects were included in Group 1, 11 in Group 2 and 26 projects in Group 3. The projects analyzed were also categorized by project types: industrial, commercial, infrastructure, government, residential, education, healthcare, hospitality. The relationship between project delays and project types was examined to understand if there is an observed trend in project delays based on the project types. Figure 1 describes the distribution of percent project delays by different project types. (Figures 1 and 2 were created using the software RStudio, Version 3.2.2).

Figure 1 indicates that, on average for projects studied residential projects incurred the highest project delay percentage (roughly 70%). Results also show that infrastructure projects had the lowest delay amounts, compared to other project types, with an average project delay percentage of roughly 11%.

Schedule performance metrics were then analyzed for the individual projects. Projects that meet the industry thresholds are coded as “PASS” and those that do not are identified as “FAIL.” Table 3 is a screen capture (only the first 8 metrics are shown) of the industry threshold analysis for all projects included in this analysis.

Table 4 summarizes the schedule quality and metrics analysis results for the three groups.
Table 4 shows that on average, among all 18 schedule quality measurements, 61% of the projects in Group 1 passed the schedule quality thresholds, 52% in Group 2 passed and 51% in Group 3 passed. Results also show that the percentage of projects with unique activity names decreases for projects with higher delay, indicating that the formatting of activity names and representation of how the project scope is translated into the schedule might impact how the delay is captured in the schedules. This finding could also be applicable to activity codes, Work Breakdown Structure (WBS) and reference. Table 4 also indicates that the projects that include milestones missing predecessors or successors incurred higher delays. Finally, the data shows that the incurred delays increase for projects where the percent missing predecessors and successors is higher than 5%. These results seem to be in alignment with some of the DCMA 14-Point Assessment particularly the missing logic ties. Furthermore, additional indicators not referenced in the DCMA 14-Point Assessment seem to be correlated with delays, including the percentages of unique activity names, unique activity codes and Work Breakdown Structure (WBS).

The relationship between the schedule performance (i.e., project delay) and the baseline schedule quality was further analyzed using the quantitative correlation coefficients. The authors evaluated the "Pearson," “Spearman” and “Kendall” correlation coefficients and the statistical significance of these correlations [3, 5]. In a statistical context, a correlation is a bivariate analysis measuring the strength of association between two variables and the direction of the relation. The correlation coefficient varies between -1 and +1. A correlation coefficient closer to 0 means that the relationship between the two variables is weak. The “Pearson” coefficient measures the relationship degree between linearly related variables. The “Spearman” and “Kendall” coefficients are non-parametric tests that assess the degree of association and strength of dependence between two variables, respectively. Table 5 describes the results of the correlation analysis between the schedule performance and baseline quality metrics.

Table 5 shows that the number of activities with unique activity IDs, milestones missing predecessors or successors, activities on the critical path, unresourced tasks, and percentage of activities with lags are correlated to the project schedule performance (i.e., amount of project delays). For example, Table 4 shows that statistically the percentage of lags in a schedule is inversely correlated to the percent project delays, which indicates that the higher the percentage of lags used in a schedule, the smaller the delay percentage. However, results indicate that the percent of activities on the critical path is directly correlated to the percent project delays, which means that the higher the percentage of activities on the critical path, the higher the project delays. Some of the above discrete correlation results described in Table 5 are also illustrated in Figure 2, to show the magnitude, statistical significance and direction of the correlation between specific schedule metrics and performance.

<table>
<thead>
<tr>
<th>Table 4 Summary of Schedule Quality Analysis Results. Detailed Schedule Quality Metrics Analysis Results are Described in Appendix 1.</th>
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<tr>
<th>PEARSON</th>
<th>SPEARMAN</th>
<th>KENDALL</th>
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<tbody>
<tr>
<td><strong>Activity ID (Unique)</strong></td>
<td>-0.671</td>
<td>-0.221</td>
</tr>
<tr>
<td><strong>Activity Name (Unique)</strong></td>
<td>-0.688</td>
<td>-0.141</td>
</tr>
<tr>
<td><strong>Activity Codes/WBS/Reference</strong></td>
<td>0.011</td>
<td>-0.090</td>
</tr>
<tr>
<td><strong>Ratio of Detail Activities to Milestones</strong></td>
<td>-0.016</td>
<td>-0.029</td>
</tr>
<tr>
<td><strong>Milestones Missing Predecessor or Successor</strong></td>
<td>-0.202</td>
<td>-0.241</td>
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<tr>
<td><strong>Milestones with Resources</strong></td>
<td>NA</td>
<td>NA</td>
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<tr>
<td><strong>Milestones with Duration</strong></td>
<td>-0.158</td>
<td>-0.183</td>
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<tr>
<td><strong>Start and Finish Milestones</strong></td>
<td>0.055</td>
<td>0.043</td>
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<tr>
<td><strong>High Duration</strong></td>
<td>0.184</td>
<td>-0.115</td>
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<td><strong>Project Calendar</strong></td>
<td>-0.043</td>
<td>0.111</td>
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<td><strong>Holidays</strong></td>
<td>-0.113</td>
<td>0.061</td>
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<tr>
<td><strong>Activities Missing Predecessors or Successors</strong></td>
<td>-0.148</td>
<td>-0.114</td>
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<tr>
<td><strong>Activities on Critical Path</strong></td>
<td>0.131</td>
<td>0.276</td>
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<td><strong>Constraints %</strong></td>
<td>-0.050</td>
<td>-0.106</td>
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<td><strong>Unresourced Tasks</strong></td>
<td>-0.278</td>
<td>-0.002</td>
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<tr>
<td><strong>High Float</strong></td>
<td>-0.049</td>
<td>-0.069</td>
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<td><strong>Lags</strong></td>
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<td><strong>Lead</strong></td>
<td>-0.014</td>
<td>-0.095</td>
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<td><strong>Project Type</strong></td>
<td>0.084</td>
<td>-0.005</td>
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<table>
<thead>
<tr>
<th>TABLE 5 Correlation Coefficients between Schedule Performance and Baseline Quality Metrics</th>
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</thead>
<tbody>
<tr>
<td><strong>TABLE 5 Correlation Coefficients between Schedule Performance and Baseline Quality Metrics</strong></td>
</tr>
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</table>

The relationship between the schedule performance (i.e., project delay) and the baseline schedule quality was further analyzed using the quantitative correlation coefficients. The authors evaluated the “Pearson,” “Spearman” and “Kendall” correlation coefficients and the statistical significance of these correlations [3, 5]. In a statistical context, a correlation is a bivariate analysis measuring the strength of association between two variables and the direction of the relation. The correlation coefficient varies between -1 and +1. A correlation coefficient closer to 0 means that the relationship between the two variables is weak. The “Pearson” coefficient measures the relationship degree between linearly related variables. The “Spearman” and “Kendall” coefficients are non-parametric tests that assess the degree of association and strength of dependence between two variables, respectively. Table 5 describes the results of the correlation analysis between the schedule performance and baseline quality metrics. The “p-value” provides an indication on the statistical significance of the correlation results. The correlation coefficients that were interpreted as statistically significant have a p-value that is lower than 0.2 (also highlighted in gray in Table 5).
Projects included in this study were selected and were classified based on their delay quantum in order to analyze the correlation between Industry Metrics identified through the literature review and project delays. 18 Industry Metrics were ultimately selected and compared across 46 project baseline schedules.

The results show that some Industry Metrics can be associated with overall project schedule performance. The number of milestones missing predecessors or successors, activities on the critical path, unresourced tasks, and percentage of activities with lags are correlated to the percentage of project incurred delays. This finding further validates the set of health checks and guidelines described in the DCMA 14-Point Assessment. Other indicators such as the number of activities with unique activity IDs, unique activity codes and Work Breakdown Structure (WBS) are correlated to the percentage of project incurred delays but are not included in the DCMA 14-Point Assessment. In addition, the study identified that correlations exist between the Industry Metrics themselves, regardless of the delay incurred. When looking at the sample data categorically, based on construction industry type, the results indicate that residential projects incur the highest delay percentages whereas infrastructure projects exhibit lower delay amounts.

Further research is recommended to analyze additional factors that can be addressed in a baseline schedule and impact project schedule performance. Some of these factors may include the amount of weather days planned and incurred, the number and timing of change orders, design submittals, the number of subcontractors involved in the project, the construction delivery method that was selected, and many others. In addition, additional analysis could be performed that include a larger sample of case study projects with a more complete data set. A project’s contract value and actual cost is an example of data that the authors were not able to fully capture at this time but could aid in future understanding of project performance.  

CONCLUSION
In this study, the authors performed a literature review to select existing schedule metrics related to the evaluation of the quality of a project baseline schedule. Projects included in this study were selected and were classified based on their delay

REFERENCES


An International Cost Management and Project Controls Conference was conducted July 11-12 by the India Section, in partnership with IITD. The conference was at the Lecture Hall Complex of the Indian Institute of Technology Delhi (IITD), India.

The conference included two-day preconference certification training workshops for CCP, DRMP, and EVP on July 9-10. The conference also had paper presentations and a one-day post conference workshop on “Disruption to the PM and Cost Engineering Profession – Influence of Artificial Intelligence, Getting Future Ready,” on July 13.

The event attracted around 150 professionals from across the world. Attendees included professionals representing the Adani Group, Airport Authority of India, Bangalore International Airport, Blue Star, Brigade Group, Gleeds Hooloomean, Howe Engineering, International Cost Engineering Council (ICEC), IIQS, Iran, ITC Limited, Karle Infra, KBR, KPMG, National Building Construction Corporation, NTPC School of Business, Petrofac, RVNL, Singapore Building Construction Authority, Swastik City Planners, Tata Projects, Turn & Townsend, Research Students of IIT Delhi and IIT Madras, WTP Cost Advisory, and others participated in the conference.

Dr. Madhu Pillai, Conference Chair, welcomed the delegates on behalf of the conference committee and the India Section. The traditional Indian “lighting the lamp” was conducted to open the conference.

The keynote address, “Leadership at 26,000 Feet” was delivered by Capt. Raghuraman, President Risk, Security & New Ventures at Reliance Industries Ltd., and the former founding CEO of National Intelligence Grid (NATGRID), government of India. This session was designed to share a perspective on leadership that is different from how it is seen from the corporate board rooms and offices. The session was based on the combat leadership skills demonstrated by the leaders of the Indian Armed Forces as they lead troops into some of the most difficult military operations under daunting circumstances.

Kwado Osei Asante, the current Global Chairman of ICEC, discussed ICEC which is an umbrella organization that represents project cost management associations on a global scale. He highlighted international networking opportunities provided by the organization for project cost management professionals, firms and associations. Ramamoorthy Rajendran, Director, Building and Construction Authority (BCA) Singapore, gave a brief talk on, “Changing the Way We Build: A Singapore Journey.” The talk highlighted the Singapore government’s initiatives on design and constructing buildings through a Design for Manufacturing and Assembly (DfMA) approach.

G.K. Pillai, Managing Director and CEO of Walchandnagar Industries Limited, spoke about, “Project Management From a CEO’s Perspective” and addressed the current opportunities and challenges in the Indian heavy engineering sector. Dharmendar Pardasani’s (Director-Contracts, Parsons Overseas Ltd.) spoke about “Effective Cost and Time Management Techniques – Delivering Excellence in Infrastructure Projects in Dubai.” He listed best practices adopted in some mega infrastructure projects in Dubai to ensure that the projects were completed within the allocated budget and stipulated time frame.

Rajesh Kanade, General Manager and Head of Project Controls, L&T Construction, presented a case study on DIAL (Delhi International Airport Limited). His talk was titled, “Approach to the Management of a Large-scale Infrastructure Project in an Emerging Economy.” He said construction projects are not only infrastructure improvements but also act as a catalyst in economic growth of any country. He discussed project challenges and the project management approaches adopted in handling mega projects in India. DIAL currently handles 69.23 million passengers per year and has three runways. The terminal building is a state-of-the-art complex featuring Common Use Terminal Equipment (CUTE). DIAL is the first airport in India to be awarded an LEED ‘Gold’ rating.

On the first day, the conference had a panel discussion about, “Technology Replacing Conventional Jobs - Where is the PM Profession Heading.” On the second day, the panel discussed “Getting Estimation Right - How to Save Mega Projects From Huge Overrun Risks.” The first discussion was moderated by Ashutosh Kapoor, Director, Major Projects Advisory with KPMG. The panel included: Dr. Sadegh Yazdani, Sunil Mahajan, Additional Director General, Construction Industry Development Council, Government of India and Sinimol Noushad, Chief Operating Officer, Dezire Project Consultant, UAE. The discussions were
predominantly on how changes in innovation and disruptions caused by technological progress are going to impact the project management and cost engineering professions. The panel discussed on the role of governments, academia, corporations, and vocational training institutes in preparing “human capital that is future-ready,” creating global value chains and knowledge networks, identifying the opportunities and strategies that can be deployed for building quality human capital in the PM profession.

The Day 2 panel included Jaimin Mehta, VP of the AACE Membership Board, Varughese Mathew, President, Indian Institute of Quality Surveyors, Yash Pratap Singh, Director, KPMG, and Laxman Nebhwani, Director, Turner & Townsend. The panel explored strategies that can be put in place to better manage risk and cost overruns. The goal was to avoid the pitfalls of a ‘break-fix’ method of project management by means of proactive and proper front-end management.

On the second day of the conference, Sankar Subrahmaniyam, Director Region 8, provided an overview of AACE International. He mentioned that AACE International membership benefits include access to AACE’s Total Cost Management (TCM) Framework which provides members and organizations with an ‘out of the box’ tried and proven integrated set of processes for strategic asset management and project control that can be adapted directly to build an organization’s processes. He mentioned that AACE International also has a suite of Recommended Practices that provide members with a wide range of practices that can be applied to solve problems on their projects. He encouraged employers and employees to consider AACE certification as a way to help ensure that investment outcomes are realized on projects. He explained the different AACE certifications available and the increasing emphasis being placed on AACE certification by various governments and employers. He reflected on the India conference and thanked the audience and speakers for helping achieve objectives through this conference.

The Day 2 session started with a talk on “Key Infrastructure Development in Emerging Aviation Sector in India.” H. S. Suresh, Executive Director, Airport Authority of India, was the speaker. This was followed by a session on “Cost Management and Project Controls in a Risk Averse Environment” by Peter Cox, Operations Director, WTP Cost Advisory Services India Pvt. Ltd. He approached the subject by looking at the sources of risk and explained how the cost manager/cost engineer can sensitize project promoters and project investors to the potential impacts of risks.

He outlined strategies used by professional cost managers and/or cost engineers to mitigate these risks. K. Satyanarayana, Chief Operating Officer of Strategic Business Group-Industrial Systems, Tata Projects, enlightened the delegates on the “Best Practices and Changing Trends in the Construction Industry for Mega Projects.” Dr. K.C. Iyer, Professor, Dept. of Civil Engineering, Indian Institute of Technology, Delhi, presented a technical paper on, “Project Complexity Index: A Tool to Distinguish and Benchmark Superior Managerial Efficiency in Complex Projects.”

Dhuva Karle, Director, Karle Infra, presented a case study from the real estate sector. The talk highlighted the good practices adopted by the organization and focused the presentation on implementation of EIA 748 guidelines for integrated program management and mentioned that Karle Infra benchmarked AACE Recommended Practices and knowledge resources, thus making the organization ready in the wake of market changes and key regulatory reforms introduced by the government of India: RERA (The Real Estate Regulation and Development Act, 2016), GST (Goods and Service Tax).

Dr. Koshy Varghese, Professor at the Department of Civil Engineering, Indian Institute of Technology Madras, spoke on the urgent need for “Improving Project Control Practices in India.” The presentation also provided an academic perspective on the current teaching and training framework on project controls and presented a review of schedules developed for construction projects including an analysis of quality issues and anomalies.

V. Sivakumar, India Section President, delivered the closing address. He thanked the speakers from India and overseas and the regional directors and international members for coming to Delhi to participate in the conference, share their knowledge, experiences and interact with participants. He thanked the conference sponsors, Indraprastha Gas Limited and KBR, exhibitors, Ontrack Engineering, Project Controls Institute, organization partners, all knowledge partners and workshop faculty for coming to support the conference. He thanked IIT Delhi for supporting the section as an academic partner with special mention of Professor Uma Maheswari and Professor K.C. Iyer, of IIT Delhi, and Professor Koshy Varghese, of IIT Madras, who are instrumental in extending the support. He thanked the volunteers, Priyanka Prasar and Niviya Thomas, research scholars of IIT Delhi, and technical staff of IIT Delhi, who contributed to the success of the conference. He extended special thanks to all the conference committee comprising Dr. Madhu Pillai, Sankar Subrahmaniyam, Mohammad Rafiuddin,
Varghese Daniel and Jaimin Mehta for their tireless work in putting on a successful program.

The conference concluded with the playing of the Indian National Anthem. The conference was followed by a post conference workshop and technical paper presentation at the IIT Delhi Lecture Hall Complex. The workshop on, “Disruption to the PM and Cost Engineering Profession Influence of Artificial Intelligence, Getting Future Ready” was presented by Dr. Sadegh Yazdani. It was well received by the attendees. As worldwide construction projects need project management skills along with managing vast amounts of qualified data for generating reliable and high precision results, AI has become a strategic focus in most international companies. The workshop focused on the time saving that can be brought in with the help of AI by automatic networking, modeling, decision making, curating and validating large volumes of data in the industry. On completion of the workshop, the delegates were able to understand concepts of driving and managing projects using AI.

Papers Presented on July 13 Included:

• “Building a Stakeholders Network of a Mega Project From a Coordination Perspective,” by Aritra Halder, Research Scholar, IIT Delhi.
• “Digital Project Management in Infrastructure Project- A Case Study of Nagpur Metro Rail Project,” presented by Pratik Pakhale, RICS School of Built Environment.
• “Case Study on Cost Optimization and Technology Infusion,” presented by Harinarayanan, General Manager, ITC Limited.
• “Investigating the Relationship Between Scheduling Contractual Specifications and Construction Projects Schedule Quality,” presented by Purushothaman Srinath, Research Scholar, IIT Madras
• “Implementing Effective Vendor Contract Administration System,” by Leveraging Technology presented by Naveen Lopes, Lead Project Controls, Adani Mining.

Pre Conference workshops on July 9-10:

The India Section offered Pre-Conference Certification Training Workshops on on July 9-10 at IIT Delhi for the CCP, DRMP, and EVP certifications. These workshops were attended by around 30 professionals from India. The workshops were well-received and the participants rated the workshops very good.

The conference followed the prior launch of the combined AACE India Section at Delhi in December 2018. IIT Delhi and IIT Madras extended support for the conference as academic partners.

BY MARTIN DARLEY, CCP FAACE FRICS, AACE International Liaison to RICS

The International Construction Measurement Standards (ICMS) has published ICMS 2, a set of new international standards. The goal is to have a more internationally recognized, harmonized, profession across the financial management of buildings and infrastructure. The hope is that these standards will raise competence and meet the growing demand in an industry that is expected to grow output by 85% to $15.5 trillion by 2030.

AACE International has been a trustee of the International Construction Measurement Standards (ICMS) since its inception six years ago. The coalition is a growing group of more than 40 professional and not-for-profit organizations from around the world, working together to develop and implement international standards for benchmarking, measuring and reporting construction project cost.

The first international construction reporting standards were initially developed by the coalition and published in July 2017. Following strong global adoption of the standards, the coalition decided to extend ICMS to cover life cycle costs. Hence, ICMS 2, covering the whole project life cycle, presents a globally standardized way of cost reporting for portfolios, programs and projects around the world.

A member of the coalition says, “The publication of ICMS 2 (visit: https://icms-coalition.org/the-standard/) is a seminal step for those professions involved in cost engineering across the entire life cycle of assets, programs, and projects.” He adds, “It will improve financial management by standardizing and improving cost prediction and control data and aid forensic analysis of construction costs.” Cost engineering professionals play an influential role in the adoption and adaptation of the standards.

Construction is a major world industry, which has a substantial effect on the public, society and prosperity. Many world bodies, governments and construction clients acknowledge that the financial management of construction requires improvement. Numerous studies have recommended that unifying international standards are required within organizations and markets, and across markets, to provide consistent, comparable reporting and data.

Martin Darley, CCP FAACE FRICS and the AACE International Liaison to RICS, says “As a coalition member, AACE will continue to participate in ICMS, collaborate with coalition members, (e.g., RICS), and disseminate Recommended Practices in cost engineering.”

ICMS: Global Consistency in Presenting Construction and Other Life Cycle Costs

2nd edition
ICMS Coalition
HAWAII SECTION

On October 10th, 2019, the Hawaii Section held its fifth networking event at a Catamaran Sunset Cruise. The section welcomed 20 members and project control professionals who enjoyed fun at sea and a beautiful sunset view!

(continued on next page)

Hawaii Section members enjoyed an autumn sunset cruise in October. Shown above, seated from left to right, are Chris Kanae, Ryan Grate, Will Sparks, Nicholas Vera, Megan Vera, Bill Bekemeier, Leslie O’Connor, Yashaira Fletcher, John Jackson, Jimmy Ogata, Jayne Genest and Nick Florez, CCC.
On the morning of October 6, Toronto Section members, friends and their families, participated in the annual Canadian Cancer Society CIBC Run for the Cure in Toronto. The Toronto Section joined thousands of participants who came together to walk, run, and fundraise, for research in support of the fight against breast cancer. One in eight women is expected to develop breast cancer in her lifetime. By coming together, we can make important progress to change the future of breast cancer.

The Pittsburgh Section’s October meeting featured a presentation from Keith Balkey, Senior Manager of Project Controls at Westinghouse Electric, who presented, “Can I get this in Excel,” in which he shared lessons learned of driving an organizational change to using an end to end analytics platform for displaying project performance warning signs. Shown above, Keith, on the left, receives a framed speaker’s certificate from Pittsburgh Section Treasurer Rich Easler, PSP.

Guest speaker, John Jackson from Encore Group, served as the luncheon technical paper speaker at the August meeting of the Hawaii Section. His presentation was entitled, Perfecting the Fixed Perspective Windows Delay Analysis.

On August 1, twenty-five Hawaii Section members and friends assembled for lunch at the office of Rider Levett Bucknall to listen to a presentation on “Perfecting the Fixed Perspective Windows Delay Analysis” by John D. Jackson. Mr. Jackson has an extensive background in the project management consulting for construction and litigation analysis disciplines. He presented the Fixed Perspective Windows Delay Analysis method which incorporates the strengths of various retrospective methods, while minimizing, if not alleviating the weakness. The result is an analysis that, when prepared correctly, is simple to calculate and easy to defend.

Toronto Section members, friends, and their families, shown above, gathered October 6 to participate in the annual Canadian Cancer Society (CIBC) “Run for the Cure” in Toronto. The Toronto Section joined thousands of participants in support of the fight against breast cancer.

(continued on next page)
On September 25, the Toronto Section conducted its first technical and networking event for the 2019 fall season. Guest speaker, Stephane Chapuis, Infrastructure Director Canada at Turner and Townsend, discussed the increasingly hot topic of implementing the PPP delivery model in infrastructure projects and reflected on the delicate balance in risk transfer that drives PPP use as a procurement model for infrastructure delivery.

Members and guests of the Toronto Section are shown attending the Section’s September technical event, “Implementation of PPP Delivery Model in infrastructure projects.”

Above, left: At the September Toronto Section meeting, Stephane Chapuis, Canada Infrastructure Director at Turner & Townsend Canada, shown above, presented the section’s first technical event of the fall. Above, right: Toronto Section Board Members are shown above, from left to right are: Ghaith Al-Hiyari, CCP; Behrad Kiafar, CEP (President); Pouya Zangeneh and Daniela Heimlech.

DOES YOUR SECTION HAVE NEWS TO SHARE? See below for complete instructions for how to submit news and photos from your Section’s happenings to be included in the AACE® International Bulletin.

SUBMITTING SECTION NEWS: We invite all sections to submit news and updates to be included in the International Bulletin section of each Source issue. Please submit any and all text as a part of the e-mail or as a Microsoft Word file attachment. Please submit any photos as individual attachments in JPG formats. Do not embed photos in Microsoft Word files. For photos to be used, we require either large original files or print size photos at 300 dpi (dots per inch). For photos to be published, they must be in focus, of print quality, and of sufficient resolution.

Please include the names and titles of each person shown in any photos. Please list names from left to right or refer to those shown as being above left or right. For group photos please list names from left to right, beginning with the front row and working to the back. All submissions should be e-mailed to editor@aacei.org. Please use the official name of the section as approved by the AACE Board when the Section’s charter was approved. Within 2 to 3 business days of submitting a “Section News” item, you should receive a return confirmation e-mail that your submission was received at AACE headquarters.

MISSING SUBMISSIONS: Generally, all submissions received in the above scheduled times will be published in the listed issue. Items are not held because of space restrictions. There is no waiting list and no preference is given to one Section over another. Questions about incomplete submissions or failure to follow these submission guidelines could delay publication. Text will be published without submitted photos if the photo does not meet the listed quality requirements. AACE reserves the right to edit all submissions and/or to refuse to publish any submissions determined by the Managing Editor or the Art Director to not meet the standards of the journal. Any appeals of these decisions will have a final decision determined by the Executive Director.

If a submission is not included in the designated issue, please e-mail or call the Managing Editor to ensure that it has not been lost or misplaced. Call or e-mail if you do not receive a confirmation e-mail within 3 business days of submission.

Source has a submission deadline of two months in advance of the issue date.

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<td>December</td>
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Embassy Suites by Hilton
Anaheim Orange County
sccmaa@cmaasc.org

JANUARY

14  CMAA OWNER’S NIGHT 2020
5:30 to 8 p.m.
The Grand, 4101 E. Willow St.
Long Beach, Calif.
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MAY

12-13  EMERGING WATER TECHNOLOGY SYMPOSIUM
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San Antonio
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JUNE

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28-JUL  AACE INTERNATIONAL CONFERENCE & EXPO
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