Insight!

MPRL E&P

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Chief Executive's New Year Message

We are almost finishing an unimaginably difficult year by any measure. The year 2021 has brought forward much hardship, from a global pandemic to economic challenges to a turbulent socio-political climate. Sadly, we all faced difficult personal challenges, including the loss of loved ones during this unprecedented time. I extend my sincerest sympathy to all of you who continue to mourn, and extend my Metta as you overcome the grief through those that you have lost.

I wish to express to our entire MPRL E&P Group of Companies staff that your hard work, dedication, performance, and resilience are greatly appreciated as we collectively overcame the unprecedented challenges of our time. The steps we have taken throughout this year to evolve, adapt, and transform have provided us with a more resilient foundation, enabling us to better withstand the challenges that lie ahead. As we embark on a fresh start, I look forward to upholding our organizational values, and our continued spirit in facing a future without fearing failure, no matter how adverse the circumstances may be. As a responsible business, we will continue to do everything we can to assist in the global fight against the pandemic and support our staff and communities so that we are prepared, recover faster, and ultimately find a means to live with COVID-19 for the times to come.

In closing, I would like to express my hope for a better year and gratitude to all of you for your performance, commitment, resilience, and fortitude in the face of multiple crises. As we embark in the spirit of this holiday season and enter into a new year, I am optimistic that we will collectively overcome the new challenges that we will face, and that the path forward will present us with new opportunities to pursue and adventures to cherish. As one year ends and a new one starts, I wish that 2022 will bring to you and your loved one's peace, good health, positivity, and most of all, hope.

Wishing you all a blessed New Year ahead!

U Moe Myint
Chief Executive Officer
MPRL E&P Group of Companies

Executive Spotlight

U Ko Ko
Country Manager and Executive Vice President

Mann Field is one of the leading resource and energy reserves in Central Myanmar, the second-highest oil-producing onshore asset that plays a significant role in driving economic growth in our country. The oil and gas industry is being disrupted by the global crash in the oil price in 2020, the pandemic in 2021, along with the political instability in Myanmar. How did Mann Field manage to respond to these crises? U Ko Ko recently shared his insight on Mann Field, detailing the challenges and initiatives that have taken place throughout the year.

Throughout history, we have faced many diseases and outbreaks. But this novel virus with its unusual features has caused the entire world to stop, putting whole countries in lockdown. When we first heard about the outbreak in Wuhan, China, where lockdown was imposed, we did not realize the severity of the infectious virus and how our lives would soon be restricted because of it. The word "unprecedented" has become a popular descriptive word for the past year as we collectively manage to change our lives by adapting the new lifestyle, socially and professionally. From the early days of 2020 to this day, we have came across many challenges wreaked by COVID-19 across the globe, wiping out decades of hardwork, manpower, unity, and strength while businesses suffer. Against this backdrop, we as a Group of Companies (GoCs), managed to overcome many hardships both in and out of work. Just like our peers in the oil and gas sector, we had to adapt to the new professional environment where our usual way of interaction and communication are now different. Further, to prevent our families and colleagues from becoming infected with this highly contagious COVID-19 virus, we had to

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More Stories

Insight!

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From the Desk of the Editor

Dear Readers,

What a year it has been for all of us! 2021 will be the year that changed us in some way or the other. While some of us became experts in the kitchen, others realized the importance of healthy living and lifestyle. Some also became more tech-savvy as we adopted work-from-home practices using our gadgets and various programs online while others started to feel stuck and hit a plateau, contributed by the impacts of societal and political events that have taken place throughout the year. Despite these shortcomings in both our personal and professional lives, we have managed to overcome our fears, worries, and anxiety as we collectively fight off the coronavirus together. The realization of one's own true potential and capability became more transparent, how at the end of the day, we must take care of ourselves to be there for one another during hard times is what made us good and selfless citizens, and most importantly, altruistic human beings with a big heart. This is something to be grateful for; we are all humans and we have the right to do what we please, but we believe in ourselves and took a role of a leader, putting forward our initiative to fight off the pandemic together.

While there is no way to avoid adversity and sorrow, surviving hardships can teach us many lessons, and I am proud to witness the unity, strength, and resilience shown by the staff across the company. This being said, I would like to thank our COVID Committee for their endless efforts in providing the best care to all our COVID-19 infected staff and their families. You can read about the award ceremony held for these frontline heroes on page 16.

As we flip through the next pages of the newsletter, you will see a variety of articles about our annual Thadingyut Homage Ceremony along with our staff's COVID-19 vaccination pictures and the memorable photo display of our sister company, Asia Drilling Pte Ltd. The journey that led to the growth of the first privately owned international drilling company in Myanmar is something to be cherished and talked about for many years. The highlight of this issue is the contribution from U Ko Ko, our Country Manager and Executive Vice President, who shared detailed information about the Mann Field during the course of the pandemic, discussing the survival mode the Operation Team went through. It is interesting to note that the move forward plan for Mann Field is to continue opening up the wells across the Mann Field and further optimize production, a commitment made by U Ko Ko and his team. Another piece of article that you can't miss is the Employee Highlight section on page 12 where Thae Hnin Si, a female engineer, talks about her experience working in a male-dominant industry.

The newsletter has enjoyed tremendous growth both in terms of content and circulation since its first publication in December 2014. Since becoming Editor for Insight! Newsletter, I have come to appreciate the contributions from all departments at MPRL E&P and I would also like to give my thanks to my supportive team, both in CSR & Communications and Design for their time in supporting my beginning efforts as Communications Consultant.

As I am reaching the end of my first year working on the newsletter, I encourage you to take the time to read what the newsletter has to offer. Although the year has proved to be eventful and impactful socially, politically, and economically, we have managed to continue with our newsletter. As we look forward to 2022, my team and I have started to reassess our communications goals for the next year, and we would like your advice and suggestions about the newsletter so that we can effectively produce a better circulation in the coming year.

With a brand-new year unfolding, I wish you to be safe, healthy, and happy. Take some time off during the holidays to really ponder about your goals, reboot your mindset, and most importantly, make sure to take a restful break. Our team and I wish to bring you the best on the communications front, just like we have until now. ■

Here's to a year of putting the best foot forward. Cheers!

Sincerely yours,
Hnin W. Zaw

Your Opinion : How Important is Developing and Training Employees?

Yi Mon Aung

Executive Secretary
Office of the Deputy Chief Executive &
Executive Director

As far as I understand, employee training and development is a program that helps employees learn new knowledge and skills and further improve their current skillset in a professional environment. An effective training program is essential because it can help strengthen the company by enhancing the skills of the employees and improving their productivity.

When it comes to learning strategies in a professional environment, it is important to understand what formal and informal learning mean. Each learning practice is different and has its own benefits and a role within the organization. In my opinion, formal learning is taught by an instructor or trainer, and it usually occurs in a face-to-face setting or through an online learning platform. This training type is more structured, more conventional, and has deadlines to meet. Informal learning is unstructured, more relaxed, and it occurs in a less strict setting where things happen naturally. For instance, during a conversation with a co-worker, she talks about a better, more efficient way to automate a manual process that benefits our productivity. This is what I mean by informal learning, where you learn something new from another person in a relaxed environment.

It is important for me to experience both formal and informal learning opportunities at my workplace because I would like to improve my personal development and strengthen my existing skills and knowledge.

I have attended the following trainings this year that were organized by the company:

- Revised Internal Transfer Policy and Learning & Development Policy Awareness Training
- Assistant Fire Warden Training
- Office 365 Training
- PMP Evaluation Assessment Awareness Training

The trainings were all conducted by the respective departments via Microsoft Teams.

If there are more opportunities in the future, I would like to attend training that is specific to my job scope and responsibilities, on my own arrangement. Through work, I would be interested in formal soft skill training that will enhance my interpersonal skills and help advance my professional goals.■

Myo Thant Zin

Site HSE Officer
HSE Department

Employee training is a program that helps employees learn specific knowledge or skills to improve performance in their current roles or jobs. Employee development is more expansive and focuses on employee's growth and future performance, rather than his or her immediate job role.

There are two types of learning practices. To me, informal learning is more beneficial to employee's performance than formal training. Learning by doing or having a hands-on experience is more effective to me because it results in higher productivity. New hires have a steep performance increase in their first year of employment when they go through various trainings especially through informal learning environment, where knowledge spillovers between colleagues actually help enhance overall productivity of the business.

I haven't had a chance to participate in the trainings organized by the company yet. However, I am currently learning and attending the online training for my HSE skill development. In the near future, I would like to attend trainings that will help me with the HSE NEBOSH IGC Diploma, Registered Safety Officer, Registered Safety Manager roles including the environmental management session from WIN OSHE Services. I am also interested in the Fire Safety Training organized by Myanmar Fire Services Department. If the company organizes leadership development trainings, I'd be keen to attend as I would like to enhance my interpersonal skills.■

> "An effective training program is essential because it can help strengthen the company by enhancing the skills of the employees and improving their productivity."

News

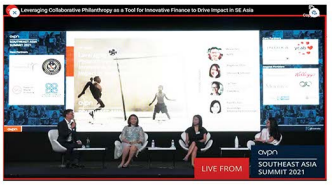
CSR & Communications Team Attends AVPN Event Virtually

Thal Sandy Tun

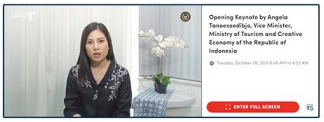
The AVPN Southeast Asia Social Investment Summit 2021 lasted two days on 26th and 27th October. The event which was held in Singapore and Indonesia went live and was open to all AVPN members and selected non-members.

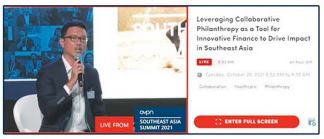
The two-day event kicked off with a welcome address by the AVPN CEO and an opening speech by the Vice Minister of the Ministry of Tourism and Creative Economy of the Republic of Indonesia on 26th October. It showcased a well-balanced mixture of keynote speakers, panel discussions, and a workshop on impact measurement and management.

The focus was on the Southeast Asia region and the coronavirus pandemic, its wide-ranging impacts on tourism,



healthcare, education, philanthropy, employment, climate as well as economies of the region and their sustainable recovery journey. The event also put a spotlight on future skill development of youth, economic empowerment of women as well as investing





in the community to ensure a post-pandemic inclusive economic recovery.

The AVPN Southeast Asia Social Investment Summit 2021 brought its network of social investors, which included philanthropists, companies, policymakers, researchers, and entrepreneurs, together with either virtually or physically to discuss and share what they have been doing to build the hard-hit sectors back better through greater collaboration and innovative solutions for the post-pandemic Southeast Asia.

MPRL E&P is a Myanmar-based corporate member of AVPN and three of our staff and the Head of Department from the company's CSR & Communications Department virtually observed the event to understand what the social investors in the region have been up to, and the role business organizations are being expected to play in the post-pandemic world.■

From Cover Page

become creative and implement work-from-home practices from the very start of the pandemic. In comparison with previous global pandemics, it is fortunate that today's science and technology, specifically digital communications, are sufficiently advanced that we were able to continue our usual activities and interact with each other through video conferencing on our computers and phones. This has become the new normal, and we will have to learn to live with it. Afterall, to live and survive in this competitive world, we must adapt constantly.

Operational Impact at Mann Field during the Pandemic

While the coronavirus pandemic underscores the duties of governments to protect their citizens and solve society's ills, many businesses have found a role in devising and putting in place new policies and strategies to help reduce the spread and risk of catching coronavirus at work while ensuring business continuity. The past eight months have brought the greatest challenges for us at MPRL E&P. While we were still struggling with the normal way of doing work, another unforeseen event took place earlier this year. Not only are we affected by the COVID-19 pandemic, but also faced with the political crisis which has resulted in the total shutdown of our Mann Field operations in early February of this year. The temporary stoppage of our operations led us to the decision of moving our field personnel to their home base until we could safely restart our operations. The Mann Field shutdown lasted for 52 days. We carefully resumed our fieldwork the first week of April and since then, the wells have slowly reopened stage-by-stage as we managed to reach the viable level of production.

By the end of September, a good amount of wells in Mann Field were up and running, thanks to our long-term partner MOGE and the Technical and Field Operations Teams for their untiring efforts during these challenging eight months. Although we were short of operational staff in the field, we still managed to run operations seamlessly and safely by following the WHO, national, and local health guidelines. During this period of gradual reopening at Mann Field, the third wave of COVID-19 hit us hard in late May, just after we had resumed our operations and sent our operational crew back to the field. The safety and security of our staff and those of our contractors are of utmost importance to us and with the Delta variant infection rate picking up speed throughout the country, we had to initiate lockdown measures at the Field Camp for a few selected crew and relocate most of them back to their home base. Since July, MPRL E&P has been overseeing the core field operations with just 26 crews who have volunteered to stay in the oilfield for a prolonged period until the third wave subsides and the Senior Executive Management decides to resume some degree of normal operations.

The months of July and August were the most crucial period not only for the country but also for our staff in Mann Field and Yangon. The hyper-infectious Delta variant spread like wildfire throughout the country; we deplored the loss of seven of our colleagues within the GoCs. Despite our precautionary measures, we had our first positive case of COVID-19 at Mann Field Base Camp in July, meanwhile, the number of COVID-19 infected cases in the Yangon Office rose to 42. Due to the nature of the Base Camp, immediate measures were taken in Mann Field to isolate the COVID-19 positive staff, and testing was initiated on the remaining quarantined staff and the operational crew with the help of the officials from the Ministry of Health (MoH)

Keeping our employees safe and supported during this difficult time has been an eye-opener for all of us. Together, we managed to provide support to one another through various means despite the lockdown in some areas and a nationwide dusk-to-dawn curfew. At MPRL E&P, our COVID Committee, chaired by our Chief Operating Officer & Executive Director played a crucial role in indefatigably providing support to our staff at both Yangon and our operational sites. During the height of the third wave, the COVID Committee managed to provide 135 oxygen cylinders for the employees and their immediate family members. The committee members tirelessly scouted for oxygen tanks, concentrators, and medical supplies for infected staff and their family members. We have had some members from the COVID Committee who themselves contracted the infectious Delta variant while on duty. I am so proud of our COVID Committee support staff for their prodigious courage and dedication to the service of others; their "service-above-self" attitude shall be remembered along with their efforts and commitment during these challenging times.

By the end of September, all COVID-19 patients in Mann Field had fully recovered and resumed work. Again, I would like to thank our long-term partner MOGE for their generous help in the lifesaving vaccination of our field staff in Mann Field. I am delighted to say that our operational staff and most of our Casual Employment Contract (CEC) crews are now fully vaccinated. What an unforgettable year it has been for many of us with many lessons learned; we must remain resilient, alert, and well-positioned to respond to any challenges ahead.

Social and Environmental Impact at Mann Field during the Pandemic

As a responsible business operator, MPRL E&P continuously strives for the social and environmental well-being of the community in which we live and work. I am pleased to report that, although we are in a tumultuous situation, all environmental parameters remain consistent with our commitment to the Environmental Compliance Certificate (ECC). The formation water produced along with oil and gas, which we had completely re-injected into sandstone formations below the Mann Field since 2017 (our "Zero-Discharge" performance), has continued to be injected into the formations in totality, and in line with Zero-Discharge. Although there have been some been some delays in the submission of the Environmental Monitoring Report to the Environmental Conservation Department (ECD) because of the safety and security concerns of third-party contractors, we remain in line with all of our commitments in ECC and will continue to do so.

In our commitment to creating long-term shared values for our communities in Mann Field, we continuously strive to achieve the highest level of social performance which entails building a robustly healthy relationship with our host communities, understanding their priorities, addressing their concerns, and investing in their collective needs. On the social front, our CSR Field Staff continue to engage day after day with MOGE and the local communities.

MPRL E&P's Operational Grievance Mechanism (OGM), initiated in September 2014, and the first mechanism to be implemented in the country at an onshore operating field in accordance with the UN Guiding Principles on Business and Human Rights, had solved a total of 148 OGM cases as of today with no pending cases, and all complainants continue to be fully satisfied with the process. The OGM Progress Reports have been prepared and uploaded on our MPRL E&P Website on a quarterly basis to

transparently communicate the Mechanism's performance.

Even though there were some delays at the height of the third wave of COVID-19, our Community Infrastructure Projects and Community Livelihood Development Plan remain on track. We continue to apply the community-led approach to our community initiatives in Mann Field to promote inclusive and participatory decision-making, transparent and accountable village development, and strengthen grassroots level governance capacity.

As a key achievement in community livelihood development, we have pushed the transition of agriculture and horticulture of our targeted community smallholder farmers from subsistence level towards an income-generating livelihood activity through our approach to add value within the value chain at the farmers' level. To reduce the risk of infection in Mann Field, we either postpone or conduct community meetings and knowledge-sharing activities in a manner that complies with the COVID-19 guidelines by the Ministry of Health (MoH), while still maintaining efficient communication channels.

While we regretfully had to suspend our Mobile Clinic Program in Mann Field since the onset of the coronavirus pandemic in the country, we have instead carried out awareness-raising activities on COVID-19 together with the Department of Public Health (Minbu). We provided ample medical supplies including non-contact digital laser infrared thermometers, face masks, PPEs, and hand sanitizers to the Community Health Centers and Minbu General Hospital, as well as to MOGE (Mann Field) as part of our donation drive against COVID-19. We have continued to support families from the surrounding villages in Mann Field as they were exposed to the outbreak and underwent quarantine periods.

In summary, the past eight months have been quite impactful and remarkably challenging for all of us. Despite various disruptions and constraints that also affected our operational site at Mann Field at many levels, MPRL E&P's commitment to helping control the spread of the infectious virus remains strong as we ensure our business continuity and corporate social and environmental responsibilities. We will continue to stay resilient and play a pivotal role in the exploration and development of sustainable and affordable energy for the country and the people of Myanmar amid the challenges that have impacted us. ■

GRI Unveils Updated **Universal Standards** through a Series of Webinars

Thal Sandy Tun

The Global Reporting Initiative (GRI) unveiled its updated Universal Standards on 5th October 2021 through a 90-minute webinar, featuring the Chair of the Global Sustainability Standards Board (GSSB) who delivered her welcome remark, followed by keynote speeches from the member of United Nations Working Group on Business and Human Rights, Head of OECD Centre for Responsible Business Conduct, and European Lab PTF-ESRS Chairman respectively. Mr. Bastian Buck, Chief of Standards at GRI also shared his presentation where he introduced the redrafted Universal Standards by explaining the key revisions that were made. Many interesting panel discussions followed before concluding the live webinar with a Q&A session.

The launch webinar attracted 7,000 registrations from over 100 countries according to the Chair of GSSB Ms. Judy Kuszewski, who was delighted about the large turnout. The audience poll at the start of the webinar showed 67% representing business enterprises from around the world; 51% was from Europe and 20% was from the United States of America.

The launch event was a product of a review on the GRI Universal Standards, which consisted of GRI 101: Foundation 2016, GRI 102: General Disclosures 2016, and GRI 103: Management Approach 2016, through a transparent and multi-stakeholder consultation process conducted globally under the supervision of the Global Sustainability Standards Board (GSSB) since March 2019.

Further, this launch webinar was accompanied by a second webinar on understanding the updated Universal Standards on 12th October 2021 and a third webinar introducing the new Oil and Gas Sector Standard on 20th October 2021.

In a Nutshell

The GRI Standards comprise of three sets of standards to be used together: revised Universal Standards, new Sector Standards, and adapted Topic Standards.

As presented by Mr. Bastian Buck during the launch webinar, the revised Universal Standards include:

- GRI 1: Foundation 2021,
- GRI 2: General Disclosures 2021 and
- GRI 3: Material Topics 2021

GRI's first Sector Standard, GRI 11: Oil and Gas Sector 2021, is introduced in response to the growing need for coherent and comprehensive reporting with a

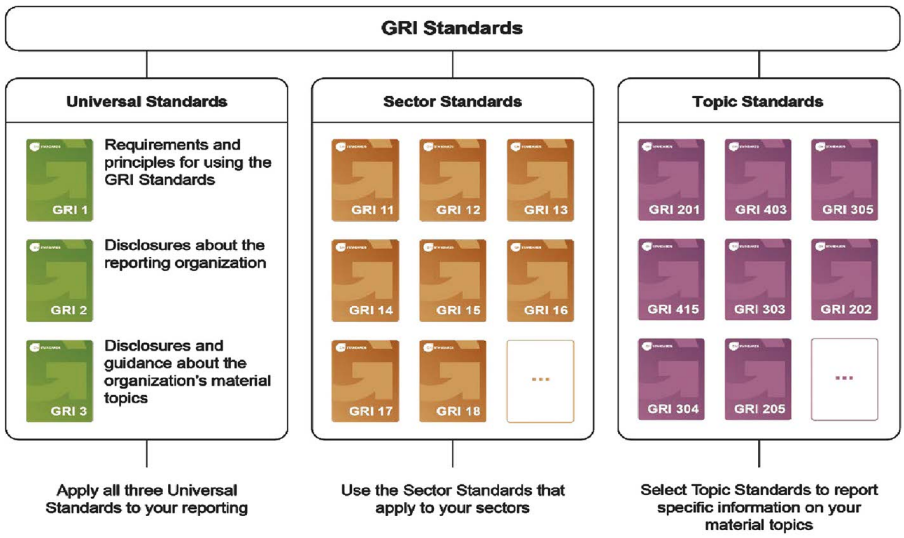


Image credit: https://www.globalreporting.org/media/s4cp0oth/gri-gristandards-visuals-fig1_family-2021-print-v19-01.png

the oil and gas sector faces in particular. It aims to improve disclosure of the impacts of the oil and gas sector's existing operations on the economy, environment, and people, and how the sector can facilitate a fair transition to a low-carbon society by changing the way they work.

The GRI human rights related topics Standards, such as forced labor, child labor, non-discrimination, freedom of association, and collective bargaining, is also reviewed largely in light of the intergovernmental frameworks on human rights and ESG due diligence, namely the United Nations Guiding Principles on Business and Human Rights (2011), OECD Guidelines for Multinational Enterprises, OECD Due Diligence Guidance for Responsible Business Conduct and ICGN Global Governance Principles. The review and alignment with the UN Guiding Principles and OECD guidelines take aims at ensuring companies' human rights efforts and disclosures to better reflect global best practices.

Therefore, the revamped GRI Standards, which was launched on 5th October 2021 and will come into effect on 1st January 2023, by and large, intends to wholly reflect due diligence expectations for sustainability impacts and human rights as per the intergovernmental frameworks while facilitating consistent and comparable reporting among companies and organizations by providing greater clarity on how they should use the Standards, according to the GRI.

Headquartered in Amsterdam, Netherlands, the Global Reporting Initiative (GRI) was founded in 1997 and serves as an international independent

organization formulating and delivering globally applicable non-financial reporting standards which are widely used by businesses, governments, and other organizations to measure and disclose their sustainability impacts. The standards body works together with notable organizations like the United Nations Environment Programme (UNEP), International Organization for Standardization (ISO), and United Nations Global Compact (UNGC) to provide clear communication to stakeholders regarding sustainability matters. A KPMG study on sustainability reporting in 2020 mentioned the GRI was the leading global standard for sustainability reporting.

MPRL E&P is an independent upstream energy company operating in Myanmar. We produced our first Sustainability Report in 2020 using the GRI Standards to engage with key stakeholders to identify material topics and report practice and performance in the areas of Environment, Social, and Governance. We believe that by following the GRI Standards, we can further strengthen our organizational performance and commitment to sustainable development. ■

Hydrogen Energy

A Synergistic Energy Solution for the Oil and Gas Industry

Brian Logan
Deputy Country Manager and Development Team Leader

As the world searches for clean energy sources, one technology that has developed substantially in recent years is the use of hydrogen fuel cells. This technology is being substantially supported and developed by major oil and gas companies, such as Shell and Exxon, who are transitioning their focus from oil and gas assets to include other energy sources. With natural gas being a primary source of hydrogen, the focus on hydrogen energy is a natural and synergistic complement to the oil and gas companies, by providing an alternative to fossil fuels, with lower carbon footprint when coupled with carbon capture and storage.

The current state of technology prevents hydrogen energy from being a widespread economic energy solution. However, efforts are ongoing to improve the technology, reduce the costs, and position hydrogen energy to be a substantial and economic energy alternative in the future.

The benefits of Hydrogen Energy

Currently, the primary demand for hydrogen is for petroleum refining and ammonia production. Only about 6% of the total hydrogen production is used for energy. However, there is a growing interest in hydrogen energy, which may contribute toward the goal of near-zero emissions, especially if hydrogen is derived from electrolysis with electricity produced by renewable sources. Applications for hydrogen energy include chemical and industrial processes, integrated energy systems, and transportation.

The major benefit of hydrogen is that it provides a cleaner form of energy. When hydrogen is consumed in a fuel cell to produce electricity, the only resulting by-product is water. Therefore, hydrogen fuel cells provide a very clean and versatile form of energy, producing near-zero emissions. Fuel cells also provide an extremely efficient, reliable, and quiet source of power.

Another benefit of hydrogen is the variety of ways that it can be produced using readily available resources, such as natural gas and biomass. Although the technology exists for multiple hydrogen production methods, further development is needed for hydrogen energy to be cost-competitive with other energy options.

It is important to understand that hydrogen is not an energy source, but instead a means (or carrier) of energy production. This differentiation means that hydrogen has to be produced from one or more of the primary energy sources such as fossil fuels, nuclear, solar, wind, biomass, hydro, geothermal, or waste resources, some of which are carbon-intensive. Currently, about 7% of the natural gas supply is used for hydrogen production, and only 6% of the total hydrogen produced is used for energy production.

Even though hydrogen power itself is very clean, the full cycle of all activities related to hydrogen energy involves, sometimes substantially, a larger environmental footprint. This dependence on other industries is true for any renewable energy, such as the mining of raw materials, manufacturing, transport, and installation of solar panels and wind farms. Worldwide efforts are being made to combine technologies, and better apply green solutions to the entire process of energy production, by jointly implementing technologies such as carbon recapture on the downstream processes that directly support the generation of renewable energies.

But how is Hydrogen produced in the first place?

Hydrogen can be produced through several methods including;

Natural Gas Reforming (fig. 1): Natural gas is combined with high-temperature steam to create hydrogen, carbon monoxide, and a small amount of carbon dioxide. The carbon monoxide by-product is then combined with water to produce additional hydrogen. Currently, about 95% of hydrogen is created by this method. It is worth noting that CO_2 (Carbon Dioxide) is a by-product of this process, albeit in small quantities.

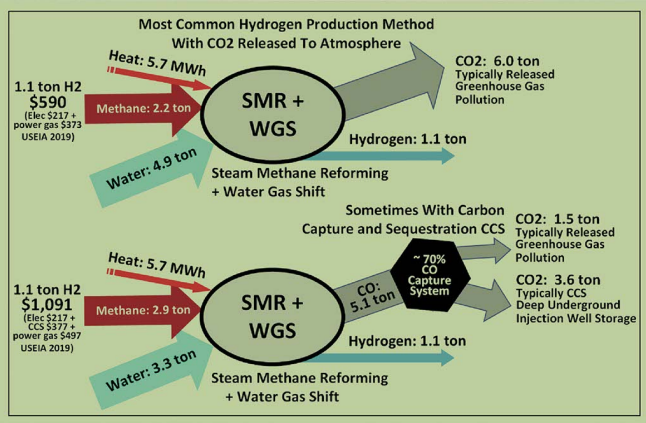


Fig. 1: Hydrogen Production by Natural Gas Reforming (Wikipedia)

A more modern, and still experimental, variant of this method is natural gas pyrolysis (fig. 2), whereby methane is bubbled up through a molten metal catalyst at a high temperature exceeding 1000°C to produce hydrogen gas in high volume, at low cost as well as non-polluting solid carbon, i.e. with no emission of greenhouse gas. The power consumption for this process heat is only one-seventh of the power consumed in the water electrolysis method for producing hydrogen.

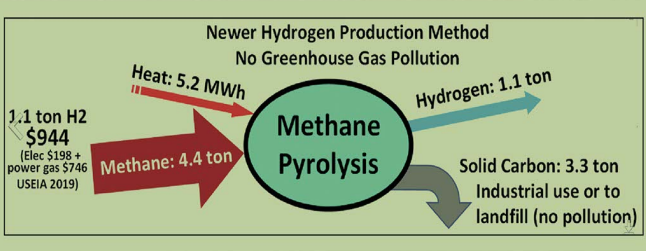


Fig. 2: Hydrogen Production by Natural Gas Pyrolysis (Wikipedia)

Gasification & Gas Reforming: This involves the same gas reforming process described above, but instead of using natural gas, the gas is created by reacting coal or biomass with the high-temperature steam and oxygen in a pressurized "Gasifier".

Electrolysis (fig. 3): Electrolysis is the process where electric current is used to split water into hydrogen and oxygen. A growing trend is to combine renewable electrical energy projects, such as wind or solar, to provide electricity for the electrolysis process for hydrogen production. Electrolysis accounts for most of the remaining 5% of hydrogen production not supplied by Gas Reforming.

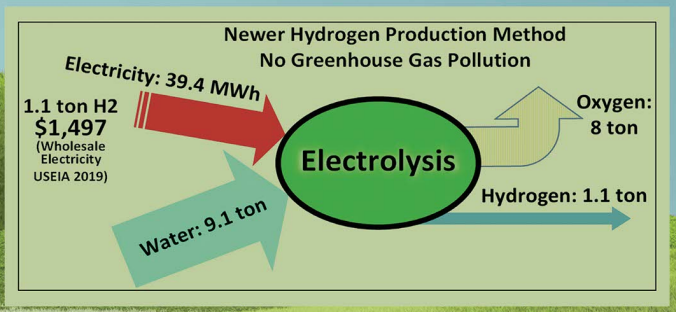


Fig. 3: Hydrogen Production by Electrolysis of Water (Wikipedia)

There are a few other methods for hydrogen production, but none are being used substantially at this time. This includes using other sources for the gas feedstock, such as recycling liquids such as ethanol to combine with high-temperature steam and fermentation of biomass. It also includes the development of other technologies, besides electrolysis, to split water molecules. For the most part, these methods are all in the development stage with little or no current production.

How do we use Hydrogen to produce Power?

Hydrogen is the simplest gas with each atom having only one proton (positively charged) and one electron (negatively charged). The most common way to produce energy from hydrogen is with a fuel cell, which is shown in fig. 4 below.

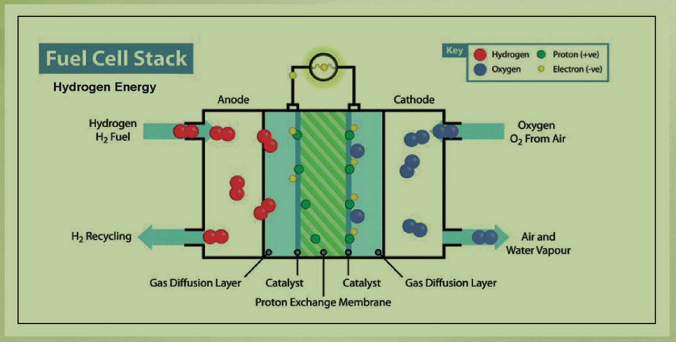
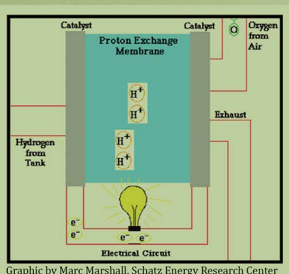


Fig. 4: Hydrogen Fuel Cells (Source Intelligent Energy)

A fuel cell is a device that generates electricity through a chemical reaction. The fuel cell consists of two electrodes; an anode on one side, and a cathode on the other side. An electrolyte, located between the anode and cathode, carries the electrically charged particles from one electrode to the other. There is also a catalyst which speeds up the reaction at the electrodes.

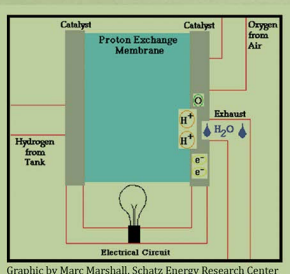
In the hydrogen fuel cell shown above, hydrogen is the fuel source and is injected near the anode. The anode strips the negatively charged electron from the hydrogen atom, resulting in a free negatively charged electron (e-in fig. 5 and 6) and a positively charged hydrogen atom (H+ in fig. 5 and 6).

The electrolyte between the anode and cathode is specifically designed to allow only the positively charged hydrogen atoms to pass while blocking the flow of the negatively charged free electrons. This forces the electrons to bypass the electrolyte and travel directly from the anode to the cathode, thus creating energy by way of an electrical current, as demonstrated in fig. 5 below.



Graphic by Marc Marshall, Schatz Energy Research Center

Fig. 5: Flow of H+ and Electrons



Graphic by Marc Marshall, Schatz Energy Research Center

Fig. 6: The H+ Combines with Oxygen and Electrons

Simultaneous with the injection of hydrogen as the fuel source, oxygen (usually directly from the air) is injected on the other side near the cathode. The positively charged hydrogen atoms pass through the electrolyte and combine with the oxygen and the electrons that have traveled from the anode to the cathode, to form water (H_2O), which is then discharged as the waste by-product, as shown in fig. 6.

As long as hydrogen and oxygen are injected into the fuel cell, electricity will be generated.

Compared to gas combustion generators, a fuel cell is highly efficient. While combustion engines typically function at about 30-35% efficiency, fuel cells function at about 60% efficiency. The chemical reaction within the fuel cell also produces heat, which can be captured as an additional source of energy and further increase the overall efficiency of the process.

The power generated by a single fuel cell is minimal, so many fuel cells are combined into stacks, and then the stacks are combined into major installations such as the one pictured in fig. 7, which is the largest fuel cell plant in the world, installed by Hanwah Energy in Seosan, South Korea. This plant was installed at US$ 215 million and is capable of generating 50 MW of electricity, enough to feed about 8% of Yangon's households. It is worth noting that this is a much higher cost per MW compared to gas powered plants in this region at this time, but the cost is expected to decrease over time as the technology is further developed.

Fig. 7: Hanwah Energy Fuel Cell Plant in Seosan, South Korea

Challenges for the Hydrogen Energy industry

The greatest challenge to hydrogen energy is the cost of hydrogen production. The current cost of hydrogen production is in the range of US$ 6/kg, which results in energy costs which are nearly three times higher than energy generated by natural gas. According to the US Department of Energy's Fuel Cell Technology Office, technology is being developed with the goal of reducing production costs to US$ 2/kg by 2025 and US$ 1/kg by 2030. To be competitive with other energy solutions, such as natural gas, the production cost has to be well below US$ 2/kg. Therefore, without financial subsidy or special tax incentives, it will take nearly a decade for hydrogen power to be economically competitive for widespread use.

It is also worth noting that the cost of hydrogen production by electrolysis is nearly twice the cost of the gas reforming process using natural gas. That is why 95% of all current hydrogen production is from natural gas. Therefore, the technical and economic challenges are even greater if the goal is to produce economical energy from hydrogen without the use of fossil fuels.

However, there is extensive worldwide focus on developing the required hydrogen technologies as soon as possible. For example, as part of concerted decarbonization goals, eighteen governments (whose economies account for 70% of global gross domestic product) have devoted resources to develop detailed strategies for developing and deploying hydrogen solutions. Also, let's not underestimate the financial benefits of subsidies and tax incentives, which can drive a significantly faster implementation, much before the technology supports economic competitiveness. Many major banks and lenders have joined the cause, offering more favorable terms to "green" projects to further incentivize the accelerated development of the technology.

The other challenge, as noted previously in this report, is the reliance of hydrogen production on fossil fuels when using the Natural Gas Reforming production method, or reliance on electrical power when using the Electrolysis method of production. Therefore, no matter how much the world condemns

the use of fossil fuels and mining, there is no way to sustain the renewable energy initiatives without the raw materials to build, transport, and install the renewable energy infrastructure, and without the fossil fuels necessary for feedstock or electrical power supply. The fact that all currently known renewable energy sources rely on petroleum products in some form makes it challenging to meet the aggressive environmental goals when including the full cycle of the energy production process, even when using renewable energy sources such as hydrogen energy that are arguably when considered in isolation of the full process, deemed to be very clean and green.

With regard to using hydrogen energy for transportation, such as vehicles and trains, other key challenges are the size, weight and cost of the storage containers, the inefficiency of the refueling systems, and the lack of existing infrastructure. This technology is far less developed than other technologies, such as electric or natural gas vehicles, and will take time to implement before widespread use is possible.

A further challenge is the fact that CO_2 is generated by the Gas Reforming process when producing hydrogen. This requires the need for carbon recapture systems for the process to be carbon neutral, and that requirement further challenges the economics of hydrogen energy production.

Hydrogen Energy is here to stay – but Petroleum too!

The technology exists for large-scale hydrogen power generation, but the economics of hydrogen energy is not yet competitive with the cost of other energy alternatives. However, there is widespread international support and collaboration to advance the technology needed to aggressively reduce the costs, by as much as 80% cost reduction within the next decade, to make hydrogen power more a more universal and economic energy alternative. There is no doubt that hydrogen power is here to stay, and will be a growing industry for years to come.

Although the fuel cell process is very clean, the entire process to construct and operate a hydrogen power plant requires extensive reliance of other industries, such as mining, manufacturing, and the oil and gas industry. Therefore, to achieve the desired goal of zero emissions, the entire process needs to be viewed holistically, with sharing and implementation of available technologies across the entire spectrum of industries. Nevertheless, hydrogen fuel cells provide a viable "cleaner" energy alternative, which aligns well with the goal to reduce the overall environmental footprint of power production and transportation.

Support of hydrogen power has been openly and clearly communicated by many major companies throughout the world, including many of the major oil companies. These actions clearly demonstrate the growing optimism and support for hydrogen power to play a key role in the worldwide transition to clean energy. The fact that hydrogen power offers unique synergies with the oil and gas industry, since natural gas is for now the main feedstock for hydrogen production, opens the door for more extensive and expedited application as hydrogen energy production costs are reduced in line with technological development.

As technology develops, there will likely be a transition toward hydrogen generation by electrolysis or other clean methods, instead of using natural gas for gas reforming, to eliminate the carbon emissions which result from the gas reforming process. This transition will reduce the use of natural gas as the direct source of hydrogen production. However, regardless of which method is used for hydrogen production, and regardless of which renewable source is used for energy production, there will still be a dependence on fossil fuels, in some form, for a long time, either directly or indirectly in the full-cycle process of energy production. Whether oil and gas are used directly for electricity generation, used as a feedstock for hydrogen production, or used to support the mining, manufacturing, transportation and installation of other renewable energy products such as solar panels and wind farms, there is no escaping the need for fossil fuels in the near future. Therefore, the development of renewable sources, such as hydrogen, is not in conflict with fossil fuels as many people believe. Instead, there is a natural synergy between oil and gas industry and the renewable energy industry, due to the current dependence of all industries on fossil fuels. ■

A Brief Trip Down Memory Lane

Founded in 2007 with the intention to become the first private international drilling company, Asia Drilling Pte Ltd. is proud to be recognized as the most trusted Myanmar owned and operated international drilling contractor in the oil and gas sector. Our Executive Management Team is composed of professionals who have both local and international experience in onshore and offshore drilling operations, and the Field Team is supported by many experienced Myanmar nationals. Among its competitors, Asia Drilling Pte Ltd. stands out as an international drilling contractor with impeccable track record of success and safety, displaying zero LTI's and LTA's all through its operational experience. This is one of the many reasons why Asia Drilling Pte Ltd. has grown to be desirable among many international clients like Carnarvon, PTTEP and ENI, underpinned by our efficiency, flexibility, and professionalism throughout the years.

Many success stories are contributed by our own Drilling Rigs, AD-1 and AD-2, both certified by Llyod's Register. Over the course of 14 years and 10 years respectively, both Rigs AD-1 and AD-2 have gone through professional certifications and proper preventative maintenance schedules, resulting in maximum performances, minimal rig downtime, and professional services.

Here, you will find photos of many familiar faces from the Senior Management and our Operational Crews at various project sites, both in Central Myanmar, Phichit, Udon Thani, and Mae Sot, Thailand. One of the highlights of our memorable achievements is the contract signing ceremony of Rig AD-2 in China in 2010, a brand-new high ambient AC/VFD Rig assembled in China with main parts from the USA, and is equipped with state-of-the-art features and capabilities.

As we cherish this transformational journey of Asia Drilling Pte Ltd. over the years, we also celebrate our continuous commitment in providing the best customer services to all our international clients in today's challenging business environment. As a Myanmar owned and operated international drilling contractor, Asia Drilling Pte Ltd. looks forward to collaborating with many more clients in the future, while enhancing the drilling and exploration services in Myanmar and Asia regions. ■

Asia Drilling Rig AD-1

Asia Drilling Rig AD-2

All Roads Start Here

NEVER STOP EXPLORING!

MPRL E&P Group of Companies

Taking up Work at Rig Sites:

Testing Limits and Possibilities

Thal Sandy Tun

As one of the Myanmar female Petroleum Engineers, Daw Thae Hnin Si introduces us to her role as Junior Engineer working in field operations and shares her first-hand knowledge of the industry and more. We hope our readers find her story insightful and inspiring!

Thae Hnin Si, now a Yangon Technological University alumna, saw petroleum engineering as an exciting choice when she was a high school graduate who aspired to a career in engineering. However, it wasn't until she was admitted to the Yangon Technological University which helped her decide which engineering field she wanted to pursue.

She says, "Since I was a kid, I was always interested in machines and when I passed the Matriculation Exam in 2013, I looked into the engineering field. Being the subject of estimating, calculating, and exploring for non-renewable resources, which we cannot see through our eyes and are very vital to our economic development, is what finally swayed me to petroleum engineering as my future profession."

Both of Thae Hnin Si's parents worked in government before retiring, her father in the navy and her mother in the Myanmar Pharmaceutical Factory or MPF (formerly known as BPI). Her father, who always wanted to be an engineer himself when young, was stunned and pleased with his daughter's dream of becoming an engineer, while her mother, albeit a little bit worried about having one of her daughters work in the oil field, supported her desire to pursue her subject of interest, and was ready to support her throughout the journey.

Despite all these encouragements from the parents, the engineering potential felt intimidated due to the fact that it is a male-dominated field: "I was aware that the petroleum engineering is a field dominated by men, both in Myanmar and elsewhere. Although I do not see any advantages or biases in regards to the industry's offers towards male engineers, I did feel anxious about entering the industry, whether they would welcome and accept female talent."

Nevertheless, Thae Hnin Si dived into her six-year studies at the university, traveling to Mann Field twice as part of field study trips and internships. On 5th February 2020, Thae Hnin Si officially started working as a Junior Engineer in the Well Servicing (Pulling Unit) Section in Mann Field, where there are ample cross-learning opportunities and rotating assignments.

The Junior Engineer says, "I like staying physically active and that's why I joined the Field Operations Department. The second reason is that I would like to get first-hand experience and knowledge of the day-to-day operations in Mann Field and it will be my strong point when I work later in an office setting. At the moment, I am being transferred to the Data Processing Section."

The coronavirus pandemic has changed the way people work overnight—Thae Hnin Si was able to take on more responsibilities during the pandemic, thanks to the company's robust training program when a second wave arrived in Myanmar. She finds the experience empowering and voices how she is determined to be well-prepared for such opportunities in the future.

"When the second wave of COVID-19 was taking place in Myanmar, we were working in Mann Field as a "closed system", running operations with minimum crew. I was given an opportunity to prove my willingness and competence in the Echo/Dynamo Section by working independently amidst this challenging period. Normally, I would still be a trainee in the section for up to a year and to be given such an opportunity to work independently in the meantime was very unlikely. I am very thankful to Field Management for this golden opportunity. I am looking forward to many more opportunities like this. The most interesting operations in Mann Field for me is the well servicing operations; I am still undergoing my training period and I hope to keep learning and be able to work independently in these operations in the near future."

The Junior Engineer, who wishes to study production technology in particular, intends to become a reservoir engineer or production engineer who can harness the power of technologies. She thinks the oil and gas industry is more interesting when you have hands-on experience, and because it is one of the top significant industries that continuously adopt technologies to help streamline operations for both recovering new hydrocarbons and optimizing existing operations. By involving in the field operations, she is now truly understanding the industry's balancing act of extracting hydrocarbons, ensuring human rights while maintaining environmental wellbeing.

"As the global oil and gas industry develops sophisticated technologies, we can utilize them at a similar pace. Foreign energy companies enter Myanmar and make use of such technologies in exploring and producing hydrocarbon resources in the country, which gives Myanmar engineers many learning opportunities. This is what's great about the industry. On the other hand, we have become aware of the need to extract natural resources in a sustainable manner. Overexploitation of non-renewable resources like hydrocarbons can result in depletion and it will take years to replace them. Therefore, it is of great importance that the extraction methods are holistic, sustainable and systematic," the Junior Engineer says.

She continues to enthusiastically discuss the challenges of exploring for more hydrocarbon resources in the country: "Studies indicate that there is an abundance of natural gas resources under the seabeds in offshore regions of the country and it proves to be a formidable challenge to locate and explore these resources beneath the seafloor. Naively, we tend to think that the more oil and gas we produce, the better our living standards will be. So why not? Only when I worked in the oil field did I realize practical operational challenges, volatility of oil prices, observing industry safety standards, and minimizing implications the new and existing production technologies have for the environment. As a result, I could think now in broader terms and feel more informed."

The World Health Organization indicates in the context of the coronavirus pandemic that people are subject to a range of concerns, including fear of falling sick and being socially excluded. The Junior Engineer observes that the pandemic and infection control measures create multiple effects on employees where there are fewer people at the workplace while more workload lies there for the skeleton staff. She shares her experience of working outside of the normal routine in the field: "Having to stay home during a wave of the pandemic takes a toll on the mental health for some employees while others have to stay a prolonged period in the field because the crew change is postponed to a later date. I myself spent two-thirds of the last year working in the field but the away period from home was not too obvious to me due to the instant communications with the family via the Internet."

Additionally, Thae Hnin Si believes the country's new realities in recent months and its weight on operations in Mann Field as well as interactions with the host communities on a daily basis contribute to employees' mental health and wellbeing. It is obvious at this point that the depth of some people's political beliefs and the heightened distrust of those with differing views can sometimes be a source of additional pressures on those working in operations to a certain extent.

Despite all these shortcomings, the Yangon-born Junior Engineer is proud of her field life filled with days working side by side with senior male colleagues—never giving up learning, staying fit, and maintaining self-confidence.

"In the past, we cannot find female petroleum engineers in Myanmar. When we see women petroleum engineers in other countries, we feel inspired and want to prove to the world that Myanmar women can be petroleum engineers too. Today, we are realizing

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The Essential Role of Accounting in Business

Thal Sandy Tun

Below is an interview with U Chit Ko Ko, Senior Accountant (Joint Ventures & Partnerships), Finance Department as he talks about his career, what makes a great accountant, positive and negative developments of working remotely amid the pandemic.

Please introduce your role and responsibilities at MPRL E&P.

I work as a Senior Accountant (Joint Ventures & Partnerships) in the Finance Department since December 2020. My responsibilities are to maintain the accounts for the Joint Venture (JV) Assets as per the provisions of the Joint Operating Agreements (JOA) and Production Sharing Contracts (PSC), and to reconcile the accounts of JV partners. I also analyze and provide explanations on variances against the budget for the weekly and monthly management reports.

As a Senior Accountant for Joint Ventures & Partnerships, I interact with JV Partners or respective Team Leads to obtain the required details and information to complete regular Joint Venture accounting and resolve any issues relating to Finance and Accounting. I am involved in planning, coordinating, and completing Joint Venture Audits and resolving any audit matters by acting as a focal point for all JV Partners' audit, that is to clarify, investigate, resolve, and respond to queries and disputes from partners and other departments in a timely manner.

I would assist in Cash Flow Forecasts and ad hoc JV accounting, reporting, and communications when required. I am also required to ensure compliance with the terms stipulated in the PSC and JOA agreements and to review government's periodic notifications for the oil and gas sector and JV assets.

Could you tell us about your work experience? Where did you work before joining MPRL E&P?

Before joining MPRL E&P, I worked at several companies ranging from a garment company, to a tobacco manufacturing company and several oil and gas companies. My career started with Myanmar Daewoo International Ltd., where I was employed for about five years, taking various roles as an accountant, senior accountant, and assistant manager. Then I was at Rothmans of Pall Mall Myanmar Pte Ltd., which produces and distributes cigarettes, as a marketing finance executive for a short period, about a year.

Then, I entered the oil and gas industry by working as a senior accountant at Chinnery Assets Limited (CNPC) from 2002 to 2011, and PTTEP International Ltd., from 2011 to 2013. The last company I worked for before joining MPRL E&P was Geopetrol Pyalo Corp., where I was the Chief Accountant in charge of undertaking full set of accounts for Yangon and Geneva office, government reports, MIC reports, treasury, taxation, and payroll for eight years.

Could you also share your educational background with us? Why did you choose to study accounting?

According to the good grades that I received at the nationwide Matriculation Exam, I decided to apply for the Yangon Institute of Economics. After studying for four years, from 1991 to 1994, I obtained a Bachelor's degree in Commerce (B.Com) from the Yangon Institute of Economics. Since 2015, I have been taking CPA courses to further expand my professional knowledge and gain more confidence in my professional career.

Accounting gives me a good foundation of knowledge that can be applied to any business, which is one of the reasons I decided to pursue a career in accounting. Accounting is an interesting and useful field that applies to all types of businesses and whether they be tech companies, or financial services companies, or healthcare companies, they all need good accountants.

What are the three most important skills of an excellent accountant in your opinion?

In addition to respective technical skills, an excellent accountant should be organized and detail-oriented with a good sense in managing time. He or she also needs to have excellent analytical and problem-solving skills plus know-how in accounting principles and processes. Being proficient in Microsoft Office Suite applications is important along with having a strong written and verbal skills.

What are the most recent updates in the accounting industry and standards?

Every day is different, since it is now driven largely by advances in science and technology. The pandemic has just accelerated the technological adoption by many businesses in almost every industry. Some examples relating to accounting include wider adoption of cloud-based accounting software, as well as moves toward automation and artificial intelligence. Being required to work from home amid the outbreak of the coronavirus, we have become familiar with online collaboration and remote work. With this new normal, I am keen to see how the role of accountants will evolve in the near future.

What kind of accounting software and applications have you worked with? What is your opinion of using automation to improve accounting processes at work today?

Different companies utilize different accounting software based on their needs. I have used many accounting software like Solomon, Epicor, MYOB, Ogsys, including this customized Chinese Accounting program. Automation brings great benefits for the accountants because it helps reduce transactional and routine tasks such as data entry, bookkeeping, and compliance work. It enables accounting and finance professionals like me to focus more on value-added activities.

What made you want to work for MPRL E&P?

MPRL E&P is one of the few leading upstream energy companies in Myanmar, effectively carrying out crude oil production in Mann Field, a well-known oil field in the country. Besides, MPRL E&P has drilled exploration and appraisal wells resulting with significant achievements in the offshore Block A-6 as a Myanmar-led local and independent company. I am really looking forward to see the ultra-deepwater project successfully enters commercial gas production stage, once the pandemic is under control and operations resume.

Since working from home has been a new normal, what are the three elements that make you an effective remote employee? Are there any challenges for you?

This is the second time in a year that we are required to work from home due to the pandemic. While we are used to some of the challenges from doing remote work, I would say greater flexibility and autonomy are some of the benefits that came out of working from home programs. Another benefit I see is that we became more tech-savvy as we try to stay connected through technology for both work and personal matters. These are some of the pros that I experience; the cons would be that it is hard for most of us to really switch off at the end of the day and be disciplined to stay safe and productive at the same time.

How do you ensure that you work safely amid this ongoing pandemic?

One wave after another, the coronavirus pandemic has forced many people into months of remote work and endless Zoom or Team meetings. This is exhausting when we work from home for too long.

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Congratulations!

Myint & Associates Company Limited

Moe Thuzar Hlaing

Myint & Associates Co., Ltd (M&A) is the first privately-owned Myanmar Company to conduct business as a service contractor in the oil & gas sector of Myanmar since 1989. Since its foundation, M&A has recognized the vast potential of the oil & gas industry in both onshore and offshore sectors in Myanmar with a need for a reliable tailor-made service provider who can offer a broad range of services to international clients. The philosophy, culture, and commitment of M&A have always been to provide the highest level of services, in an efficient and most cost-effective manner for all our clients, whether it be small or large.

M&A's three-decade-long success in the service sector is celebratory. The biggest milestone for us is the Total E&P Myanmar's (TEPM) (now TotalEnergies EP Myanmar) Yadana Project where M&A took charge of construction services for the Kanbauk Base Camp. The project commenced in 1994 and within 12 months time frame, M&A successfully completed both Phase I and Phase II of the construction work. Our client TEPM was very satisfied with the final result and our performance that they extended their contract with us for base camp maintenance, road construction, logistics, manpower supply, catering, housekeeping, and other general services for three consecutive years. Further, this first successful project with TEPM has brought us many opportunities to work with many international companies; through their word of mouth, we have recently landed two contracts with EPCIC tenders - McDermott and HHI, who are the big contractors for POSCO's Daewoo SHWE Phase I, II, and III Projects. We are proud of our latest achievements during these hard times. Although the COVID-19 pandemic has brought some social and economic disruption, through the help and support from MPRL E&P Group of Companies' COVID Committee, we are well-prepared for any unforeseen challenges ahead. M&A strictly follows WHO, national, and local health guidelines and protocols since the safety and well-being of our employees and clients is our top priority. Furthermore, because of our strong commitment to safety, we have managed to maintain our contracts with POSCO, PTTEP, and PCML for both onshore and offshore catering services for many years.

M&A's services are well-known among many companies in the oil and gas sector especially in areas of logistics and procurement, manpower supply, agency representation, catering, and housekeeping. Our long-standing reputation as a leading service provider in the industry is the result of our commitment to providing a wide range of quality products and services while catering to the specific needs of our clients. Throughout our three-decade-long achievements, we have established ourselves as the industry's most trusted service provider with a competitive advantage and strong market position, backed by our dynamic and experienced team.

Through hard work, dedication, and unwavering commitment, M&A is now reaching its 32nd year of being a leading service provider, fully owned and operated by Myanmar nationals, for many international clients in the oil and gas sector. Going forward, M&A will continue to work together with all clients in providing the best suite of services while contributing to enhancing the economic growth and development of our country. ■

Engineering & Construction
Total E&P Kanbauk Construction Base Camp

Onshore & Offshore Catering
TEPM Yadana Platform

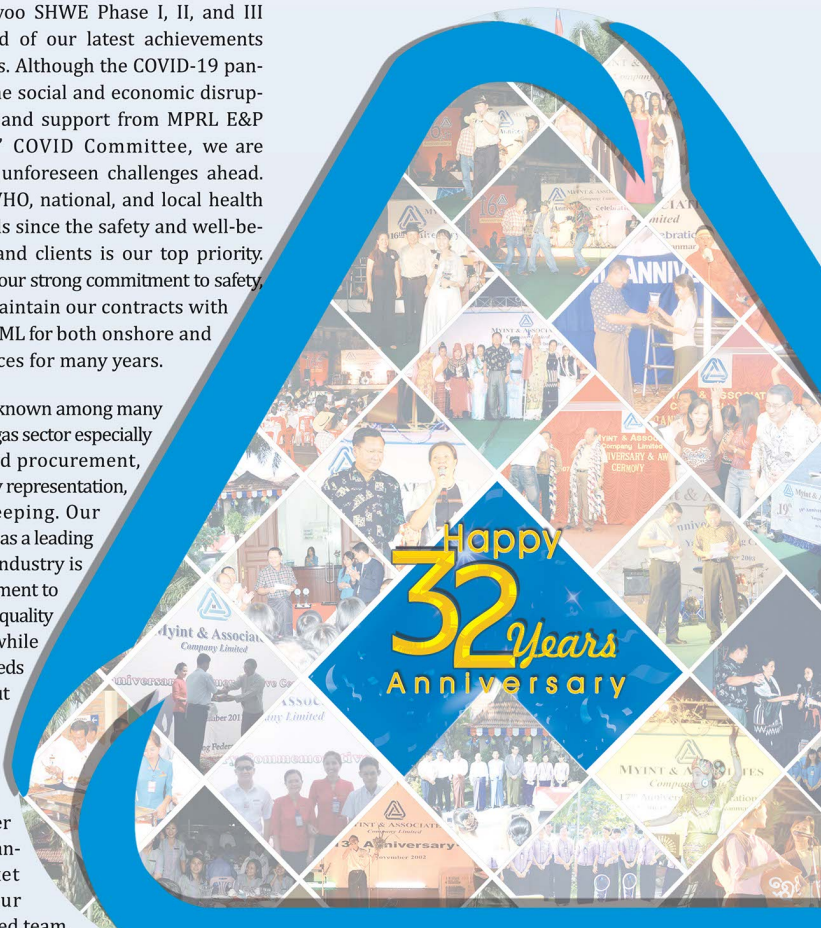
Onshore & Offshore Catering
PCML Yetagun Platform

Manpower Supply
KNOC Doosung Drilling Rig

Transportation & Mobilization
Loading at MOGE Thaketa Offshore Supply Base

Head Office Building
Vantage Tower

Logistics & Custom Clearance Services
Transocean DDKG-2 Drillship



NOC: the Health Monitor for Business Operations

Kaung Myat Thu

Technology around us is changing every day. Through technological advances made over the course of history, we have seen and experienced many breakthroughs, resulting from technological innovations coming from all parts of the world. This is illustrated by the evolution of the computer, from the early 1900s up to now, how the computer has evolved from simple professional use to personal use, and similarly along the lines, how data management and storage have also transformed from a simple floppy disk to Data Centers to a cloud.

Data Centers have become one of the biggest breakthroughs in technology. The popularity of Data Centers is apparent; the possibilities from having or using one are because of the level of efficiency, security, scalability, and technological capability it provides along with significant cost effectiveness and reduction. All sizes of organizations, small and large, now rely heavily on Data Center services, setting themselves as an important player in data management and networking while ensuring business continuity and operational performance.

One of the components of the Data Center is the Network Operations Center or "NOC", a physical room with large multiple wall screens where IT professionals continuously monitor the performance and health of a network. These wide monitors provide detailed visualizations of the networks being monitored, the status of the lines of communication, and their performances. According to TechTarget.com, "the NOC acts as the nervous system to manage and optimize business-critical tasks, like network troubleshooting, software distribution, and updating, router and domain name management, performance monitoring and coordination with affiliated networks." It is important to note that NOC focuses on network performance and manages common network errors that occur naturally.

NOC is popular among big enterprises like banks, retail, telecommunications, and colocation centers. For instance, NOC's responsibility for clients like internet service providers and Data Centers consists of 24/7 monitoring of the status of the link bandwidth, ensuring that the company has adequate bandwidth available throughout its entire network while operating at an optimal level. Further, NOC monitors and detects network device utilization and trunk links so that in case of a random network issue, the support technician can quickly find out which node shows error, causing inconvenience and delay for the end-users. For most clients, NOC's role is to monitor the network health so that there are no surprises in its performance. With NOC, the IT technicians can quickly identify problems before they affect business continuity as any downtime is costly for the clients. Finally, a NOC allows you to automate repetitive processes, which reduces errors and increases productivity. These are some of the major benefits of implementing and utilizing a NOC system and a NOC can provide more services overall than most regular in-house technicians, 24 hours a day, 7 days a week, 365 days a year.

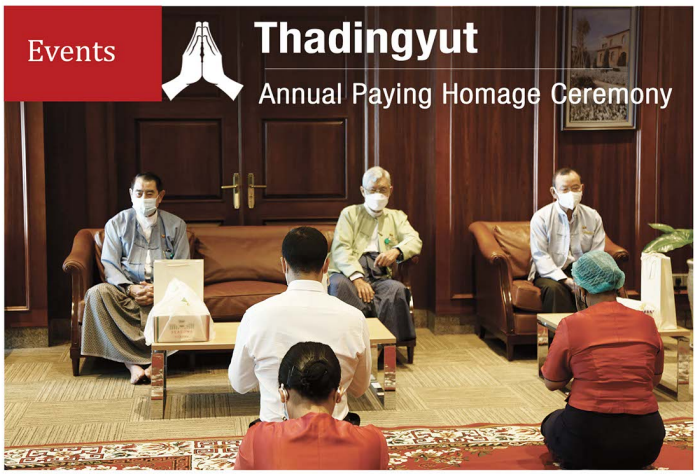
Our M&A Data Center consists of a world-class NOC system where our expert team of professionals provides 24/7 support to all our customers. We value and prioritize the safety of our data to the core but also, embrace the disruptive issues and network discrepancies that might cause random issues in the long run. That is why our state-of-the-art Data Center has become a leader in the industry not only because of our lines of services that we provide but also, the tight security system, environmental monitoring system, cooling system, electrical, fire suppression, and protection system that are also installed and implemented to protect the overall structure and management system. Most of all, our M&A Data Center and the team conduct visual checks of our customer's monitoring devices and we escalate and report any alerts or issues that occur in the network and the hardware. ■

Source:
https://www.techtarget.com/searchnetworking/definition/network-operations-center

Events

Thadingyut

Annual Paying Homage Ceremony



Awarding Courageous Employees in GoCs' Fight against COVID-19 Third Wave

Pyae Pyae Phyo

On 8th October 2021, MPRL E&P Group of Companies held an Award Ceremony for the employees who voluntarily offered their helping hands to the GoCs' fight against the COVID-19 Third Wave. The Ceremony honored 47 employees with recognition certificates and monetary awards for facilitating the COVID Committee's assistance program during the peak of COVID-19 Third Wave; awardees included 29 from Myint & Associates (M&A), 14 from Vantage Tower's Building Management Office (BMO), 3 from ICare Cleaning Services, and 1 from Myint & Associates Construction (M&AC).

Since the end of June 2021, the Third Wave of COVID-19 pandemic has caused an enormous surge of positive cases and fatalities, and a desperate need of lifesaving medical supplies in the country. It has dealt a severe blow to the communities across the nation, including our workplace community. As never before, it has bitterly impacted our business operations as well as the health and wellbeing of our staff and their loved ones.

As part of our social and ethical response, the Senior Executive Management of MPRL E&P GoCs took relentless actions to provide staff and their immediate family members with necessary medical support and to save as many lives as possible. Under the guidance of the Senior Executive Management, MPRL E&P Group of Companies' Emergency COVID-19 Assistance & Oxygen Support Committee (COVID Committee) was formed to provide immediate short-term support of oxygen supplement and medical care to COVID-19 positive staff and their family members who were in dire need of help.

The biggest challenge for the COVID Committee was the search for oxygen during the time of oxygen shortage. Under the COVID Committee's management, the employees searched and transported oxygen tanks back and forth between the oxygen supply stations and sick staff's homes even during the curfew hours. Their efficiency and support level were impeccable, from installing oxygen concentrators and cylinders, making swab test arrangements to maintaining daily medicine supply and cold chain system, and disinfecting the daily return of oxygen cylinders. Moreover, two employees voluntarily took on a caring role for their sick colleagues with confirmed COVID-19. Those 47 courageous employees were awarded by U Sithu Moe Myint, Chief Operating Officer, and the Executive Management of MPRL E&P Group of Companies.

U Sithu Moe Myint said in the Award Ceremony, "We formed the MPRL E&P Group of Companies' COVID Committee to support all of our staff and their immediate family members to the best of our abilities. But if we didn't have supportive people around to help us, we wouldn't be able to achieve what we wanted, and we wouldn't be able to help as we wish effectively. I would like to express my sincere gratitude to those who have come forward with such courage, responsibility, diligence, and metta. As head of the COVID Committee, I am very fortunate to be able to work side by side with a great supportive team, who proactively worked at the front line, making things more effective and efficient for all of us." He expressed his utmost respect and appreciation to the awardees on behalf of the Senior Executive Management and also urged the employees to continue with the same spirit and effort that they went through during the Third Wave, in the ongoing fight against COVID-19 pandemic. ■

We're Fully Vaccinated!

MPRL E&P Group of Companies

We are proud to announce that our entire MPRL E&P Group of Companies is now fully vaccinated. It is important that we get vaccinated so that we can resume our activities safely. We are grateful to be part of our community-wide effort to protect ourselves and those we love from COVID-19. After all, we must fulfill our responsibility as citizens of the community and it is our duty to keep our families and community safe. Let's not forget to wear a mask and follow the safety guidelines from the WHO, local, and national health authorities. Be safe and be socially wise! ■

School Renovation and Supplies

Thal Sandy Tun

Schools are of essential value in today's world, especially in disadvantaged communities. The partnership between diverse stakeholders and community leaders can make a huge difference in the community because they can reinforce positive attitudes towards education. In addition, the support from these stakeholders will ensure that the children in these communities receive proper education, and at the same time, prepare them to transition into adulthood.

Ensuring schools are equipped with safe water, sanitation facilities, and equipment to meet the basic needs of children is a good starting point and requires a consistent and inclusive effort.

According to UNICEF (Myanmar), a lack of functioning WASH (water, sanitation, and hygiene) facilities in schools can result in lower child attendance and achievement. For instance, community schools in Mann Field depend on water from Mann creek as their primary source, of which turbidity is high, making it unsuitable for everyday drinking.

Seeing there is a need in these disadvantaged communities, MPRL E&P prioritizes supporting water, sanitation, and hygiene facilities in schools by putting in place water filtration units and hand-washing stations coupled with information sessions on the water, sanitation, and waste management for school children, an initiative that began in 2016.

A total of 11 public schools—one high school and the rest middle and primary schools—are located in the 14 surrounding villages in Mann Field. MPRL E&P's CSR Program supports these schools on a needs basis, some of which reflect underinvestment and rural-urban disparities. In this regard, MPRL E&P's CSR Program dedicates a portion of an annual infrastructural budget for school renovation and supply projects—both major and minor ones.

Furthermore, carrying out specific school projects make the community schools safer and stronger. These projects include school fencing and school gate construction as well as old school restoration and renovation, which are implemented by sourcing building materials and equipment locally to support the region's economy.

Gauging the conditions of community schools and understanding the risks they pose to young learners together with community leaders and school officials is part of the restoration and renovation process. Then one can decide whether to restore or to renovate the buildings. On the cards are two school restoration projects in Kyar Kan Village and Lay Eain Tan Village.

With an objective to warrant a sense of participation and ownership regarding the major renovation projects, the CSR Program welcomes a small percentage of financial and labor contributions by the community in these school-related projects.

Meanwhile, investing in appropriate classroom interior design is essential in enhancing the overall learning experience for the children. The CSR Program hires a local artist to create wall paintings in the Auk Kyaung Kindergarten classroom, which has been the most expensive renovation project up to now.

Adequate school furniture plays a critical role, in combination with textbooks and teachers, in creating a conducive learning environment. Based on requests by school officials, the CSR Program delivers school supplies including benches and desks, as well as cabinets, bookshelves, and glass cupboards for teachers' rooms as part of our minor school projects.

Under discussions is a plan to work with school teachers and relevant organizations to initiate two school-based pilot projects, namely 'Green Schoolyard' and 'Bokashi School Composting', with an emphasis on environmental sustainability that will facilitate extracurricular learning of school children and make schools more sustainable in the long run.

The pandemic has rendered schools across the country empty. However, schools will soon be reopening their doors to welcome students back under careful safeguards as soon as coronavirus restrictions are dropped. What lies ahead will be an enjoyable learning journey for children who have been away from their studies for a while. ■

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the dream and I am very happy to make it happen myself. Traditionally, Myanmar women are seen as gentle both mentally and physically, thus unfit for what an oil field demands on them. Many tend to think science and engineering subjects go well with men while women should pursue less demanding subjects like art."

Furthermore, science and engineering subjects themselves are a form of art—you won't know unless you try it yourself, the Junior Engineer insists. "Women's unique point of view in combination with scientific knowledge can help pave the way for the development of innovative and fresh technological ideas. Therefore, I wish to encourage more girls and women in Myanmar to follow the field of science and engineering if they are really into it."

Throughout her childhood in which her father was most of the time away from home for work, her mother nurtured Thae Hnin Si and her sister to be independent and strong as young girls. Not only this, Thae Hnin Si adopts her mother's kind-heartedness.

As a growing working adult, she looks into good traits and ideas in everyone she meets and regards them as mentors while learning life lessons from them. She says, "Every person has both good points and bad points. I have adopted the practice of learning their good points and avoiding the bad ones."

Being a declared introvert who enjoys being alone when her duties are over, the Junior Engineer develops a habit of greeting people she meets at the workplace with a smile. With a bright smile, she concludes, "Your smile can brighten someone who is having a bad day. It will also make them easier to remember you while it costs you nothing. Let's spread love and kindness specifically in this difficult time, and that's what really matters at the end of the day for all of us, doesn't it?" ■

> "Only when I worked in the oil field did I realize practical operational challenges, volatility of oil prices, observing industry safety standards, and minimizing implications the new and existing production technologies have for the environment. As a result, I could think now in broader terms and feel more informed."

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However, to everyone's relief, some workplaces are starting to allow employees to physically return to the office under the strict virus control measures while the COVID-19 vaccination rollouts are picking up.

Both employers and employees have been adapting to a new normal workplace practice that includes wearing face masks, social distancing, and glass partitions, ensuring that we follow the health guidelines. As a step forward, we can now urge our colleagues and family members to get vaccinated through either private or government vaccination programs. I am lucky to have the opportunity to get the vaccination through the company in September and October. ■

New Year, New Mindset

Hnin Wynt Zaw

Today's corporate culture asks for efficiency and creativity while expecting you to produce the best output. And to stay relevant in this changing business environment, we need to think creatively. So how do we go about it?

Are you feeling unmotivated and stuck? Have you ever experienced the frustration of hitting a roadblock? Well, you are not the only one. The burn out from the pandemic and everything else around can take a psychological toll on you. The hardship, the pressure, the instability, all these personal and societal factors can affect your mental health and in the long run, you suffer the consequences affecting your creative output. What do you do when you are in this situation? Take a pause. Reset. Jumpstart your mindset with these simple but powerful tools:

(1) Listen to Calming Music

There are many relaxing tunes on YouTube that can help you improve concentration and block out distracting noise. Music activates both the left and right brain at the same time and also, this activation helps you achieve a good mood while increasing productivity.

(2) Make your Work Space "Homey"

Find a spot that is quiet and cozy. Make sure your work space is uncluttered. Believe it or not, a messy workplace will contribute to your stress. Create a "liveable" space, adjust your lighting, furniture, stationery around you and elevate the work mood with office plants and photos.

(3) Create Bite-sized Goals

Set goals in smaller chunks and write them down, tackle one task at a time. Smaller goals are more achievable on a regular basis which correlates to setting them more often. This results in motivating yourself to accomplish faster and success becomes more attainable.

(4) Stay Fit and Healthy

Exercise and do cardio. Sweat it out. Get plenty of sleep. Caffeine is helpful but it can also have a disruptive effect on your sleep so make sure you do not overuse it. Consume nutritious food and cut down on carbohydrates; overconsuming carbohydrates will affect your focus and make you feel lethargic instead of giving you energy. Also, stretching helps you with having a good restful sleep because a quick stretch before going to bed can make a huge difference.

(5) Take a Short Break

5 to 15 min breaks after each task or even when you feel like you have lost your focus is helpful. Take a walk around the office. Find something short to watch or listen to online. Give yourself a mental break.

(6) Stay Away from Multitasking

Every day, we are rushing through tasks, at home and work, killing our focus and productivity. It is better to finish one task at a time before moving on to the next one. This is very useful especially when checking or answering emails; do not stop in the middle of a task to check your email, finish your task first. If it is not urgent, respond later.

(7) Indulge in Mind Games

Concentration and focus can be harder to achieve when you are surrounded by noise and other kinds of distractions. Also, our memory and attention span tends to decline with age. Studies have shown that brain teasers games can help improve concentration, memory, and processing skills. These cognitive exercises challenge your concentration and help train your cognitive abilities because you are focused on a specific task while trying to come up with a solution. There are many brain games that are available online and offline such as puzzles, crosswords, sudokus, and chess. Take a break from your daily chores and play one of these games; you will notice your attention span and realize how these games can positively improve your focus and strategic thinking.

(8) Get a Restful Sleep

Another huge factor that impairs our concentration is sleep deprivation, a problem that all of us face as we get older. As professionals, we are trying to manage a demanding schedule every day and stress can make it harder for us to get a restful sleep. Various studies recommend 7 to 8 hours of sleep each night for adults. In order to get a good night's sleep, we have to be mindful of our habits throughout the day. Avoid consuming caffeine in the evenings, turn off your phones, TVs, and computers an hour before bedtime, commit to a sleep schedule even on weekends, and finally, do a quick stretch, take a warm bath, or read a book to wind down before bed.

Learning how to manage your concentration is important to your creativity. There is a correlation between mental focus and creativity. Without focus, you are unable to solve problems and tackle them differently. Studies have shown that creative people are more adaptive to uncertainty as they can think differently and better deal with it creatively. A productive and successful person solve issues faster because they know how to tackle a problem using new and different methods.

Creativity does not in fact confined to art, music or similar artistic domains, we are using this skill in our daily lives, whether be composing emails, writing a report or simply making a cup of coffee. The question is how we use it or if we use it at all. Your brain is so used to falling back on your original thoughts and with pressure and accelerated pace around you, you end up tweaking your original idea, making some minor adjustments, and finishing it. You have no time to generate new ideas and you end up producing another mundane output. Creativity doesn't necessarily mean coming up with something scientifically monumental; it is simply producing something interesting, innovative, and different. We must push ourselves to be creatively courageous both at home and at work.

As we move into a new year, take this holiday break from work to evaluate ourselves and make changes to our mindset. This pandemic has affected our ability to focus and be creative, making us feel unproductive and stuck. It isn't because we are slacking off, but because of the way our brain is hardwired to respond to crisis and stress over an extended period. We must fix this, we cannot let the pandemic get the best of us. ■

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"Creativity doesn't necessarily mean coming up with something scientifically monumental; it is simply producing something interesting, innovative, and different."