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Pakistan, China resolve to work together to realise CPEC's shared objectives

Pakistan and China, voicing satisfaction at the steady development of China-Pakistan Economic Corridor (CPEC) projects, expressed their firm commitment to continue working together to realize its shared objectives.

The bilateral ties were discussed in a meeting between Caretaker Prime Minister Anwaar-ul-Haq Kakar and Chinese Vice President Han Zheng on the sidelines of the 78th session of the United Nations General Assembly.

In the meeting, the two sides agreed on the centrality of CPEC for Pakistan's socio-economic development and expressed satisfaction at the celebratory events held in both coun-

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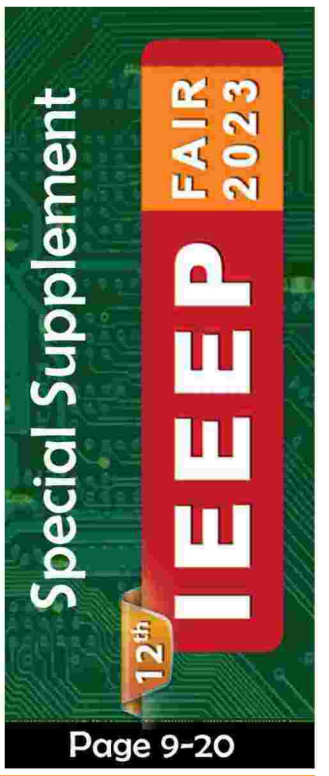

Launch of Hyundai's Santa Fe around the corner

Hyundai Nishat Motor (Private) Limited (HNMPL), the fastest-growing automotive manufacturer in Pakistan, is set to make waves in the country's automotive landscape with the imminent launch of the highly anticipated Hyundai SANTA FE. Marking their 5thlocally assembled Completely Knocked Down (CKD) model, HNMPL continues to redefine the automotive industry in Pakistan.

Building on the remarkable success of their previous models, such as the Sonata, Elantra, and Tucson, the Hyundai SANTA FE promises to usher in a new era of excellence in the SUV segment. With a focus on advanced features and cutting-edge technology, this remarkable vehicle is poised to change the SUV landscape and emerge as a true competitor in the SUV market.

Embracing the global vision of sustainability and innovation, HNMPL has taken significant steps by establishing a state-of-the-art Hybrid facility. This strategic move enables them to introduce a locally assembled D-SUV hybrid vehicle to the Pakistani market, underlining their commitment to environmentally friendly solutions and a brighter, greener future for Pakistan.

The Hyundai SANTA FE embodies a harmonious blend of luxury, safety, sleek design, and an array of amazing features. It is meticulously crafted to cater to the diverse needs of Pakistani consumers, delivering outstanding performance whether navigating the urban streets or driving on rugged terrains.

As the official launch of the Hyundai SANTA FE draws near, the CEO of HNMPL, Hasan Mansha expressed the significance of this milestone for the company and the Pakistani market. "We are committed to bringing new and innovative products to the Pakistani market," said Hasan Mansha. "The launch of the Hyundai SANTA FE underscores our dedication to enriching the automotive experience of Pakistani consumers and expanding our footprint in this dynamic market."

The anticipation surrounding the Hyundai SANTA FE launch is palpable, and excitement is building across the nation. As the official launch draws near, car enthusiasts and consumers are excited about the unveiling of the Hyundai SANTA FE.—PR

Pakistan, China resolve to work together to realise CPEC's shared objectives

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tries to mark its 10th anniversary.

They also agreed to further deepening their cooperation at the multilateral fora.

The conversation was marked by traditional warmth and cordiality that has been the hallmark of Pakistan-China All-Weather Strategic Cooperative Partnership.

The two leaders exchanged views on the entire gamut of bilateral relationship including CPEC, and bilateral economic and financial cooperation.

Reiterating support to China on core issues, the prime minister appreciated China's unflinching support to Pakistan's territorial integrity, sovereignty and socio-economic development.

He noted that China's firm opposition to holding any G20 meeting in the disputed region of Jammu and Kashmir reflected China's principled stance for upholding international law and UN resolutions.

In his remarks, Vice-President Han said that Pakistan-China friendship was unique and had withstood the vicissitude of time due to deep fraternal ties between the peoples of two nations.

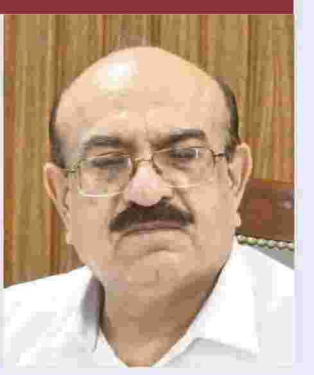
He said that as a close neighbour and iron-brother, Pakistan occupied a special position in China's neighbourhood diplomacy and that China would continue efforts to safeguard Pakistan's core interests and for the economic development and prosperity of its people.

Prime Minister Kakar and Vice-President Han agreed to continue the momentum of high-level exchanges between Pakistan and China.

The prime minister invited the Chinese Vice-President to undertake a visit to Pakistan at his earliest convenience which the latter accepted. -- APP

Promoting Engineering Collaboration and Nurturing Talent:

By Engr. Adul Rehman Shaikh



In a significant endeavor to foster collaboration and support the engineering community, the Pakistan Engineering Council Vice Chairman Sindh, Engr. Mukhtar Sheikh, Engr. Zahid Arif (former Vice Chairman of PEC KPK), Engr. Abdul Rehman Shaikh, Engr. Mohsin Ali Khan, Engr. Mian Sultan Mehmood (members of the PEC Governing Body), and representatives from the National Engineers Association, including Engr. Nadeem Malik, Engr. Khalil Ahmed Shaikh, Engr. Muniba Memon and Engr. Abdul Rafiq Shaikh recently visited the head office of DESCON Engineering Limited in Lahore. This visit aimed to strengthen ties between PEC, DESCON, and regional engineering bodies, explore opportunities for collaboration, and promote internship programs for fresh engineering graduates.

The visit commenced with a warm welcome from the DESCON team, led by Engr. Imran Cheema, head of development (Also a member of PEC's Board of Governors). Engr. Cheema expressed his gratitude to the distinguished guests for their presence and highlighted the importance of collaboration between industry and professional institutions for the growth and development of the engineering sector.

During the visit, the DESCON team presented a comprehensive overview of their ongoing and completed projects, showcasing their expertise in various sectors, including infrastructure, housing, and energy. Notable projects such as the Hydropower plants/dams, canals, bridges, water treatment plants, wind towers, housing schemes, and irrigation gates were highlighted, illustrating DESCON's commitment to excellence and innovation in engineering. The guests were impressed by the scale and quality of the projects, reflecting DESCON's technical capabilities and adherence to international standards.

Among the DESCON team, two members, Mr. Akhter Ali, and Mr. Omar Sajjad, were introduced. Mr. Akhter Ali, the Project Sponsor and advisor, and Mr. Omar Sajjad, the Head of Proposals in the Infrastructure Division, play a crucial role in shaping DESCON's future projects, aligning with DESCON's vision of sustainable growth and expansion.

Vice Chairman Engr. Mukhtar Sheikh took the opportunity to present the PEC On-the-Job Training (OJT) program, which offers industries the opportunity to arrange internships for fresh graduate engineers. He emphasized the importance of practical experience in shaping the future of young engineers and bridging the gap between academia and industry. PEC provides a stipend of Pakistani Rupees 30,000 per month, encouraging industries to contribute a minimum of Pakistani Rupees 10,000 per month. Engineer Sheikh extended the internship offer to DESCON Engineering

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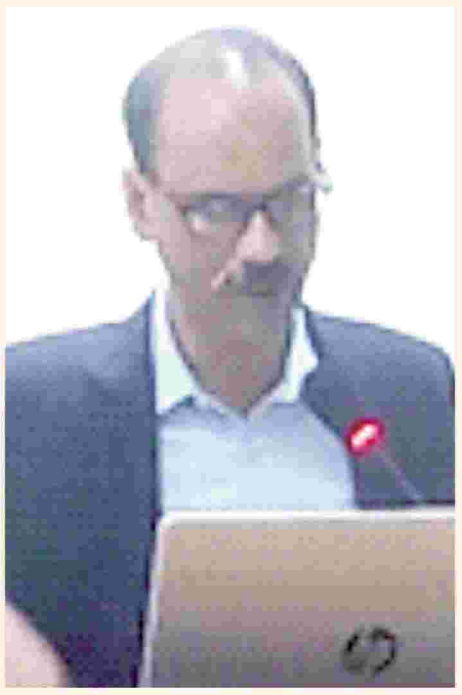
"Development of a Quality Management Framework for the Assessment of Quality Performance of Automobile Sector"

By Dr. Ali Zulqarnain

The research on the subject mentioned in the heading above was finally presented by Dr. Ali Zulqarnain. He works as an Assistant Professor at the Department of Industrial & Manufacturing - NED University of Engineering & Technology in Karachi, Pakistan.



The purpose of the research which took several years, is to develop a Quality Management Framework for assessing the Quality Performance of Auto Parts Manufacturers in line with the standard requirements of local and global automobile assemblers, and guidelines of world-renowned performance excellence models. Furthermore, this research proposes a generic Quality 4.0 (Digitized) framework that is integrated with the proposed framework of QM in order to realize the emerging demand for the sustainability of digitization and connectivity.

A literature review highlighted the domains where more research is required before developing the required QM framework for the assessment of the quality performance of APMs. Competency levels of APMs (major work) along with other local and global (minor work) organizations are assessed through statistical analysis by employing the licensed versions of statistical software. An assessment of competence level also revealed the areas where more effort is needed to establish a framework that would serve the demands of automobile assemblers. The development of the QM framework has incorporated the valuable feedback of industry experts of APMs and automobile assemblers (OEMs).

The research discovered that the existing world-wide renowned performance excellence frameworks are generic in nature for the assessment of quality performance and don't cater to all the specifications outlined by performance excellence frameworks and the recommendations (JICA, AIDEP 2021-26, IATF 16949, and others) for enhancing products quality of local APMs.

Eventually, after several years of research, a QM framework is proposed for assessing the quality performance through newly derived KPIs hence improving the product quality of APMs for meeting the performance excellence in the competitive market, in order to fulfil the requirements of local and global automobile assemblers. A generic digitized quality framework is also proposed and integrated to address future demands. An introductory demo version of the Mobile App is also developed. Improvement in the proposed QM frameworks is in progress and can be further tailored to meet the specific needs

Promoting Engineering Collaboration and Nurturing Talent:

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Limited, recognizing their commitment to excellence and their potential to provide valuable learning experiences for young engineers.

Mr. Abdul Razak Dawood, the founder of DESCON Engineering Limited, graciously accepted the internship offer, reinforcing the importance of such programs in nurturing engineering talent. In addition to his contributions to DESCON, Mr. Dawood is a prominent figure in the engineering and business community of Pakistan. He has played a vital role in establishing DESCON as a leading engineering company in the country. Formerly, Mr. Dawood also served as the Minister of Commerce and Industries in the Government of Pakistan, further highlighting his significant contributions to the nation.

Mr. Dawood expressed his appreciation for PEC's initiatives and emphasized the need for practical exposure to complement theoretical knowledge. He acknowledged the role of industry leaders, professional institutions, and regional engineering bodies in shaping the future of the engineering sector in Pakistan. His acceptance of the internship offer from PEC demonstrates his dedication to supporting young engineers and providing them with valuable learning opportunities within DESCON Engineering Limited.

The visit concluded with expressions of gratitude from the DESCON administration, extending their sincere appreciation to PEC, Engr. Mukhtar Sheikh, the National Engineers Association team, and the other distinguished guests for their support and engagement. The DESCON administration reiterated its commitment to collaboration, innovation, and sustainable development in the engineering industry. They acknowledged the value of partnerships between industry and professional institutions in fostering a culture of excellence and nurturing engineering talent.

The visit of PEC and National Engineers Association members under the leadership of Engr. Mukhtar Sheikh, to DESCON Engineering Limited's head office in Lahore, marks a significant milestone in promoting engineering collaboration and nurturing talent. The comprehensive presentation of DESCON's projects, the acceptance of the internship offer by Mr. Abdul Razak Dawood, and the mutual appreciation expressed during the visit all contribute to the growth and development of the engineering sector in Pakistan. These collaborative efforts pave the way for a stronger and more vibrant engineering community, equipped to tackle the challenges of the future and contribute to the nation's progress.

Breakthrough in Saudi Arabia: NESPAK Secures Prestigious NEOM Project

In a momentous achievement, NESPAK, Pakistan's premier engineering consultancy, has secured a landmark NEOM project in Saudi Arabia, becoming the first Pakistani firm to do so.

This milestone was announced by Mr. Zargham Eshaq Khan, Acting Managing Director of NESPAK the other day.

The project focuses on the energy sector and has been awarded by the Saudi Electric Company (SEC). NESPAK's scope of work involves providing construction management services for Extra High Voltage (EHV), High Voltage (HV), and HVDC projects within various zones encompassing NEOM Bay, NEOM Mountain, and NEOM Phase II. The project carries a budget of 46.5 million Saudi Riyals, equivalent to 3.794 billion Pak Rupees, and is scheduled for completion within three years.

NEOM, the centerpiece of this endeavor, is a part of Saudi Crown Prince HRH Muhammad Bin Salman's Vision 2030 reform program. This visionary initiative aims not only to diversify the nation's oil-based economy but also to transform society, creating a flexible economy capable of meeting the challenges of the modern world. NEOM's grand designs span a wide range of regions, featuring a floating industrial complex, a global trade hub, opulent tourist resorts, and a cutting-edge linear city powered by sustainable and renewable energy sources.

NESPAK's success in securing this prestigious project is a testament to the technical excellence and unwavering commitment of its professionals. It also marks a significant milestone for an Asian firm in a region traditionally dominated by European and Western companies.

NEOM represents the pinnacle of architectural innovation and ambition on a global scale, embodying the future of development and investment in the Middle East.■

The Future Of Pakistan's Garments Industry

Analysis by Adnan Riaz & Zahid Kamal | Fiberglass Institute

The Textile and Garments industry in Pakistan has been a key driver of the country's economic growth and development.

With its skilled workforce, competitive pricing and strong supply chain Pakistan has become one of the leading exporters of Textiles and Garments. The future of Pakistan's Garments industry holds great promises driven by advancement in technology and sustainable practices.

TECHNOLOGY ADVANCEMENT

The future of Garments industry in Pakistan lies in embarrassing technology advancements to enhance productivity and efficiency. The integration of automation, artificial intelligence and machine learning is set to revotionalise manufacturing process. Automated cutting, sewing and packaging system will streamline operations reduce production time and minimized errors leads to improve quality and increased output. Moreover, digital solutions like virtual prototyping, 3D modeling and supply chain management platform will enhance collaboration between stack holders, reduces cost and improve decision making.

SUSTAINABLE PRACTISES

Leading the way Pakistan garments industry is also poised to become a global leader in sustainability. With increasing consumer awareness and demand for echo friendly products the industry is actively adopting sustainable practices

Key areas of focus include

1 GREEN MANUFACTURING

Manufacturers are investing in renewable energy sources such as solar power to reduce reliance on KE/Wapda and minimize the industries carbon footprint.

2 CIRCULAR ECONOMY

The concept of circular economy, where materials are recycled and reproposed is gaining attraction in the industry.By adopting sustainable sourcing practices and promoting recycling Pakistan garments industry is working towards minimize and creating more sustainable supply chain.

INVESTMENT IN RESERCH AND DEVELOPMENT

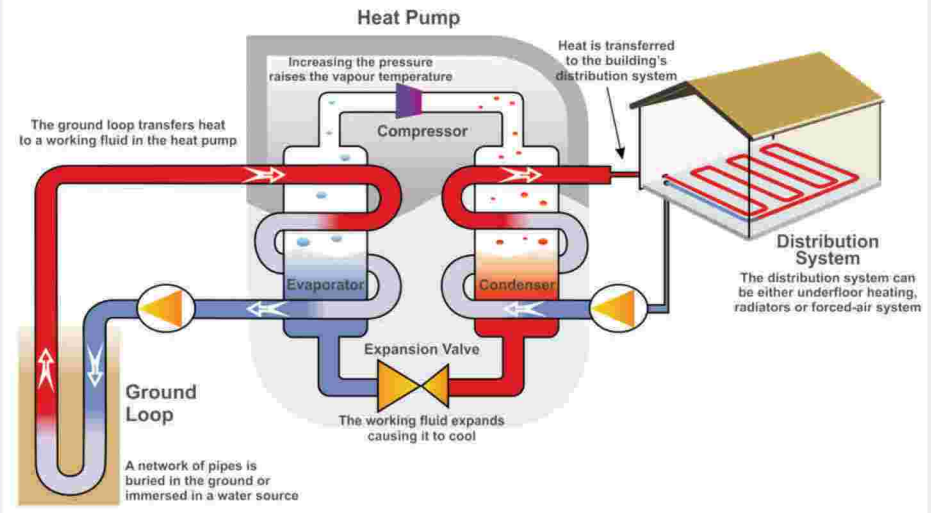
Investment in R&D will be crucial for future of Pakistan garments industry. Embarrassing innovations and exploring new materials such as sustainable fabrics and smart textile will enhance product quality and functionality. R&D initiative will also focus on developing manufacturing techniques, automation process and digital solution to stay ahead in competitive market

The future of Pakistan garments industry is bright and promising by leveraging technological advancement, sustainable practices and nurturing global partnerships Pakistan can further strengthen its position as a leading player in global market of garments.■

Thermal Performance of Ground Source Heat Pumps

Engr. Dr. Muhammad Nawaz Iqbal

A ground source heat pump, also known as a geothermal heat pump, is a heating and cooling system for structures that use a specific thermal heat pump to transfer heat to or from the ground, utilizing the earth's relatively constant temperatures throughout the year. Geothermal heat pumps, also known as ground source heat pumps, are among the most energy-efficient technologies for delivering HVAC and water heating. They consume far less energy than resistive electric heaters or burning fuel in a boiler or furnace. Liquid-to-water heat pumps are hydronic systems that distribute warmth or cooling to baseboard heaters, conventional radiators, underfloor heating, and hot water tanks through the building's pipes. For pool heating, these heat pumps are also favored. Boilers normally run at 65-95 °C (149-203 °F), whereas heat pumps typically only efficiently heat water to around 55 °C (131 °F). When upgrading a home from a boiler to a heat pump, larger radiators may be needed since the size of radiators made for the higher temperatures generated by boilers may be too small for use with heat pumps. Water-to-air heat pumps, also known as liquid-to-air heat pumps, produce forced air and are most frequently used to replace central air conditioning and older forced air furnaces. Split systems, high-velocity systems, and ductless systems are all possible variations.

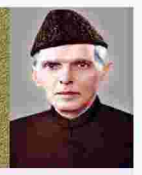


A ground heat exchanger in contact with the ground or groundwater is used by ground source heat pumps to extract or release heat. Accurate system design is essential to a successful system since poor design can lead to the system freezing after several years or to very inefficient system performance. The effectiveness of a heat pump is influenced by efficient compressors, variable-speed compressors, and larger heat exchangers. Currently, available residential ground source heat pumps have standard COPs between 2.4 and 5.0 and EERs between 10.6 and 30. Heat pumps must achieve specific minimum COP and EER values, which vary depending on the kind of ground heat exchanger, to be eligible for the Energy Star label. The ISO 13256-1 heating COP and cooling EER for closed-loop systems, respectively, must both be 3.3 or higher.

The soil at depths of several meters or more and without the addition or removal of artificial heat maintains a fairly steady temperature throughout the year. This temperature is about equivalent to the location's normal yearly air temperature, which in the north of the US is around 7–12 °C (45–54 °F) at a depth of 6 meters (20 ft). Ground-source heat pumps outperform air conditioners and air-source heat pumps during extremely high air temperatures because this temperature is more consistent throughout the seasons than the air temperature. The diversity of the time and space scales involved presents a challenge in estimating the thermal response of a ground heat exchanger (GHE). The heat transport of GHEs involves eight time periods and four spatial dimensions. The diameter of the borehole (0.1 m) and the corresponding duration are the first spatial scales of practical significance. During this time, the effect of the heat capacity of the backfilling material is substantial. The half distance between two nearby boreholes, which is on the scale of several meters, is the second crucial dimension of space. The matching period, which is around a month, is crucial for the thermal interaction between nearby boreholes.

By utilizing interseasonal heat transfer and seasonal thermal energy storage,

ground source heat pumps' efficiency can be significantly increased. Thermal banks allow for the efficient retrieval of heat that was caught and stored over the summer. The importance of this advantage is greatest in commercial or district heating systems because heat storage efficiency rises with scale. Additionally, by using big, affordable, water-filled solar collectors, tiny heat pump installations already in place can increase their efficiency. By inserting one-inch PE pipes into the outer layer, they can be integrated into a parking lot that is being renovated, as well as in wall or roof projects.■



فرمانِ قائداعظمؒ

ایمان ، اتحاد ، تنظیم

آزادی اور قربانی

پس جہاں تک ممکن ہو ہمیں اپنے حریفوں کو سمجھانے کے لئے عقل اور دلیل سے کام لینا چاہیے۔ میں جانتا ہوں کہ دلیل اور عقل ہمیشہ ہی کامیاب نہیں ہوتیں لیکن ہمیں اپنی طرف سے پوری کوششیں کرنی چاہیئے۔ جو لوگ فی الحال لاہور کی قرارداد پاکستان کے خلاف ہیں، ہمیں ان کے دل میں غیر ضروری تلخی پیدا نہیں کرنی چاہیے۔ آخر ہمیں ضرورت ہی کیا ہے؟ مجھے پورا پورا یقین ہے کہ ہمارے یہی حریف ایک نہ ایک دن محسوس کر لیں گے کہ ہندوستان کے انتہائی پیچیدہ مسئلے کا واحد اور بہترین حل قیام پاکستان ہے کہ جس کے قیام کی نظیر پوری دنیا کی تاریخ میں نہیں ملتی۔

(پنجاب مسلم سٹوڈنٹس فیڈریشن۔2 مارچ 1941ء)

آوازِ اقبال

اقبال کا ترانہ بانگِ درا ہے گویا
ہوتا ہے جادہ پیما پھر کارواں ہمارا

تو شناسائے خراش عقدۂ مشکل نہیں
اے گل رنگیں ترے پہلو میں شاید دل نہیں
زیب محفل ہے شریک شورش محفل نہیں
یہ فراغت بزم ہستی میں مجھے حاصل نہیں
اس چمن میں ' میں سراپا سوز و ساز آرزو
اور تیری زندگانی بے گداز آرزو
توڑ لینا شاخ سے تجھ کو مرا آئیں نہیں
یہ نظر غیر از نگاہ چشم صورت میں نہیں

آہ! یہ دست جو اے گل رنگیں نہیں
کس طرح تجھ کو یہ سمجھاؤں کہ میں گل چیں نہیں
کام مجھ کو دیدۂ حکمت کے الجھیڑوں سے کیا
دیدۂ بلبل سے میں کرتا ہوں نظارہ تر

افغانستان سے کوئلے کی درآمد

پاکستان افغانی کوئلے کا بڑا درآمد کنندہ رہا ہے۔ پاکستان کو کوئلے کی برآمدات افغانستان کے لئے آمدنی کا ایک اہم ذریعہ ہیں۔ لیکن وقت کے ساتھ ساتھ اس تجارت میں آسانیوں کے بجائے پاکستان کیلئے مشکلات میں اضافہ ہو رہا ہے۔ جس نے پاکستان کو سستے کوئلے کی خریداری کے لئے دیگر ممالک سے رجوع کرنے پر مجبور کیا ہے۔ مثال کے طور پر افریقین اور انڈونیشن کوئلہ 35 ہزار روپے فی ٹن، مقامی کوئلہ 37 ہزار روپے فی ٹن جبکہ افغانی کوئلہ پاکستان کو 40 ہزار روپے فی ٹن پڑتا ہے۔

بالفاظ دیگر کوئلے کی تجارت میں پاکستان کے مقابلے میں افغانستان جیت کی پوزیشن میں ہے۔ یعنی کہ پاکستان کو کوئلہ برآمد کرنے میں افغانستان بہت زیادہ فائدے میں ہے۔ اس کی کئی وجوہات ہیں۔ مثال کے طور پر

افغانی کوئلہ کم معیاری ہے۔ جس میں سلفر کی مقدار کم اور جو ہائی گراس کیلورفک ویلیو (GEV) پر مشتمل ہے۔ افغان حکومت کوئلہ نکالنے کے ٹھیکے صرف افغان تاجروں اور ٹھیکیداروں کو دے رہی ہے اور افغان تاجر کوئلہ نکالنے کے لئے افغان مزدوروں کی ہی خدمات حاصل کرتے ہیں۔ جب کوئلہ نکالا جاتا ہے تو پھر وہ کوئلہ افغان ملکیت والے ٹرکوں کے ذریعے ہی منتقل کیا جاتا ہے۔ کوئلے سے لدے ٹرک جب پاکستان میں داخل ہونے کے لئے پاک افغان بارڈر پر پہنچتے ہیں تو وہ افغان حکومت کو ٹول ٹیکس اور ایکسپورٹ ڈیوٹی ادا کرتے ہیں اور آخر میں پاکستان کا نجی شعبہ بھی افغانوں کو کوئلہ خریدنے کے لئے ادائیگی کرتا ہے۔

قیمتوں میں اضافے کے ساتھ ساتھ بہت سی پاکستانی فیکٹریوں نے پہلے ہی اپنے پلانٹس کو ہائی سلفر اور ہائی جی سی وی کوایڈجسٹ کرنے کے لئے تبدیل کر دیا ہے تاکہ افغان کوئلے پر انحصار کم کیا جا سکے۔ اس تمام صورت حال کو دیکھا جائے تو پاکستان کو کوئلہ برآمد کرنے میں افغانستان کی پانچویں انگلیاں گھی میں ہیں۔ اگر افغانستان کی طرف سے مشکلات کو مدنظر رکھتے ہوئے افغان کوئلہ کے پاکستانی خریدار مکمل طور پر دوسرے سستے اور اچھے معیار کے آپشنز کی طرف رجوع کرتے ہیں تو واضح طور پر سب سے زیادہ نقصان افغانستان کو ہوگا۔ پاکستان کے ساتھ کوئلے کی تجارت میں کمی یا مکمل خاتمے کا اثر افغانستان کی اقتصادی صورتحال پر پڑے گا کیونکہ پاکستان افغانی کوئلے کا سب سے بڑا خریدار ہے اگرچہ افغانی کوئلہ معیاری بھی نہیں ہے اور جیسے کہ تفصیل کے ساتھ اس کالم میں واضح کیا گیا کہ پاکستان کو کوئلہ برآمد کرنے میں نہ صرف افغان حکومت بلکہ افغان تاجروں اور مزدوروں کے لئے بھی یہ تجارت آمدنی کا اہم ذریعہ ہے۔ اس لئے اگر کوئلے کی پاکستان کو برآمد کم یا ختم ہو جاتی ہے تو اس سے افغانستان کی اقتصادی صورتحال متاثر ہو سکتی ہے۔

افغانستان کی عبوری حکومت نے پاکستان کی کاروباری برادری کے ساتھ حال ہی میں کوئلے پر برآمدی ٹیکس کم کرنے پر اتفاق کیا ہے۔ اگرچہ یہ پیشرفت خوش آئند ہے لیکن اس کو آٹے میں نمک کہا جائے تو بے جا نہ ہوگا کیونکہ اب بھی اس تجارت میں پاکستان کی کاروباری برادری کو بہت سی دیگر مشکلات کا سامنا ہے جیسا کہ اس کالم میں بیان کیا گیا ہے۔ اور اہم بات یہ ہے کہ افغانی کوئلے کا وہ معیار بھی نہیں ہے جو درکار ہوتا ہے۔ علاوہ ازیں پاکستان کے پاس دیگر سستے آپشنز بھی موجود ہیں جن پر غور کیا جا سکتا ہے اس لئے یہ کمی اب بھی خاص طور پر افغانستان کے لئے کاروبار دوست نہیں ہے۔

افغانستان کی طرف سے ابتدا میں کول مائننگ ٹیکس 12 سو افغانی تھا۔ جولائی 2022 میں بڑھا کر 2500 افغانی کر دیا گیا جبکہ حال ہی میں اس کو کم کر کے 2200 افغانی کرنے کا اعلان کیا گیا۔ اس تفاوت کو دیکھتے ہوئے اس کو کوئی قابل قدر کمی نہیں کہا جا سکتا۔ اسی طرح کسٹم ڈیوٹی 45 ڈالرز سے کم کر کے 30 ڈالرز کی سابقہ شرح پر کر دی گئی ہے۔ جبکہ کوئلے کی کان میں افغان کوئلے کی اصل قیمت اور مزدوری لاگت 900 سے 1000 افغانی ہے۔ اور کان کنی ٹیکس دگنا سے بھی زیادہ ہے، چونکہ افغان کوئلہ معیاری نہ ہونے کے ساتھ ساتھ مہنگا بھی پڑتا ہے جس سے پاکستان کی کاروباری برادری کو مشکلات کا سامنا ہے اور دوسری طرف پاکستان کے پاس دیگر معیاری اور سستے آپشنز بھی موجود ہیں اس لئے پاکستان کو ان دیگر آپشنز کی طرف رجوع کرنا چاہیئے تاکہ کاروباری برادری کو معیاری اور سستا کوئلہ میسر ہو جو ملک کی اقتصادی ترقی کے لئے ضروری ہے۔ ■

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مقامی وسائل سے پیداوار

K الیکٹرک نے ملٹی پارٹی ایم او یو پر دستخط کر دیے

ہم سستی بجلی فراہمی کیلیے قابل تجدید توانائی کے حصے کو بڑھا رہے ہیں، مونس علوی

مقامی ذرائع سے بجلی کی پیداوار بڑھانے اور سب کے لیے سستی توانائی کا حصول یقینی بنانے کے لیے پرعزم ہے۔ الیکٹرک نے حکومت سندھ (جی اوایس)، اوریکل پاور اور پاور چائنا کے ساتھ تھر کے کوئلے سے چلنے والے 2x660 میگاواٹ پاور پروجیکٹ کی ممکنہ ترقی کے لیے مفاہمت کی یادداشت (ایم او یو) پر دستخط کر دیے ہیں۔

کے الیکٹرک کی نمائندگی سی ای او مونس علوی نے کی حکومت سندھ کی جانب سے سیکریٹری انرجی ابوبکر احمد، اوریکل پاور کی سی ای او ناہید میمن اور پاور چائنا کے چینگ کیانگ موجود تھے۔ اوریکل پاور ایک بین الاقوامی قدرتی وسائل اور پاور پروجیکٹ ڈویلپر ہے جو لندن کے اسٹاک ایکسچینج میں لسٹ ہے، وزیر توانائی سندھ امتیاز شیخ نے کہا کہ بجلی ترقی اور پیشرفت کا بنیادی محرک ہے اور یہ تعاون اس سمت میں ایک بڑا قدم ہے۔ ایک بار آپریشنل ہونے کے بعد یہ منصوبہ پورے صوبے کو بے حد فائدہ دے گا۔ اسی لیے ہم اس کی پختگی تک مکمل تعاون فراہم کرنے کے لیے پرعزم ہیں۔ کمپنی 2030 تک اپنی مجموعی پیداواری صلاحیت میں 2,200 میگاواٹ کا اضافہ اور قابل تجدید توانائی کے حصے کو مجموعی مکس کے 30 فیصد تک کرنا چاہتی ہے۔

سی ای او کے۔ الیکٹرک مونس علوی نے اپنے خیالات کا اظہار کرتے ہوئے کہا کہ بحیثیت کمپنی ہم دستاویزات بن گئی ہیں۔

پاور چائنا کے نمائندے نے بتایا کہ تھر پروجیکٹ اپنے وژن اور اقدامات کے ذریعے کاربن کے اخراج کو صفر کرنے کے ساتھ ساتھ توانائی کی قابل بھروسہ، قابل رسائی اور تسلسل کے ساتھ فراہمی یقینی بنانے کے لیے کوشاں ہیں۔

ہماری موجودہ شراکت داری اور مستقبل کے منصوبے ہمیں درآمدی ایندھن پر انحصار کم کرنے کے قابل بنائیں گے۔ ہم صارفین کو سستی اور مستحکم بجلی فراہم کرنے کے لیے جنریشن مکس میں قابل تجدید توانائی کے حصے کو بڑھا رہے ہیں۔

اوریکل پاور کی سی ای او ناہید میمن نے CPEC میں شامل 1320 میگاواٹ کے کوئلے سے چلنے والے بجلی کے منصوبے کی ترقی کے لیے اپنی کمپنی کے عزم کا اعادہ کیا۔ انہوں نے بتایا کہ اوریکل نے عالمی معیار کی فزیبلٹی رپورٹس تیار کی ہیں جو تھر کی ترقی کے لیے بینچ مارک کی ترقی پاکستان کے لیے بہت اہمیت کی حامل ہے۔ اوریکل کا 1320 میگاواٹ کا کول پاور پروجیکٹ چین پاکستان اقتصادی راہداری (CPEC) کے تحت توانائی کے ترجیحی منصوبوں میں سے ایک ہے۔■

ملک میں فائیو جی ٹیکنالوجی کو ٹیلی کام انڈسٹری نے مسترد کر دیا

سابقہ حکومت نے دسمبر 2023 میں فائیو جی متعارف کرانے کا ہدف مقرر کیا تھا

فائیو جی ٹیکنالوجی کا پاکستان سے فاصلہ ایک بار پھر بڑھ گیا، سابقہ حکومت نے دسمبر 2023 میں فائیو جی متعارف کرانے کا ہدف مقرر کیا تھا، سابقہ حکومت یہ ہدف حاصل کرنے میں ناکام رہی، موجودہ نگران وزیر ڈاکٹر عمر سیف نے دس ماہ میں فائیو جی متعارف کرانے کا بیڑہ اٹھا لیا، دس ماہ میں فائیو جی لانے کا ہدف مقرر کر دیا۔

حکومت نے ٹیلی کام آپریٹرز پر فائیو جی ایکو پمنٹ نصب کرنے اور ٹیکنالوجی لانے کے لیے دباؤ بڑھا دیا ہے، ادھر ٹیلی کام انڈسٹری نے ہاتھ کھڑے کر دیے ہیں، انڈسٹری نگراں وزیر سے موجودہ فور جی نیٹ ورک کی رسائی اور خدمات کا معیار بہتر بنانے کے لیے معاونت کا مطالبہ کر رہی ہے، انڈسٹری کے ماہرین کا کہنا ہے کہ فائیو جی ٹیکنالوجی صنعتی اور کاروباری مقاصد کے لیے زیادہ سودمند ہے، پاکستان کا صنعتی شعبہ نئی ٹیکنالوجی سے استفادہ کرنے کے لیے تیار نہیں ہے، موجودہ معاشی حالات اور زرمبادلہ کی عدم دستیابی سب سے بڑی رکاوٹ ہیں، دوسری جانب فائیو جی کے لیے مہنگے اسمارٹ فونز بھی پاکستان کے زرمبادلہ کے بحران میں اضافہ کریں گے۔

انڈسٹری زرائع کے مطابق نگران حکومت کا 10 ماہ میں فائیو جی ٹیکنالوجی متعارف کرانے کا ہدف ٹیلی کام انڈسٹری نے مسترد کر دیا ہے، ٹیلی کام آپریٹرز کا کہنا ہے کہ ملک کے موجودہ حالات اور زرمبادلہ کے مسائل کی وجہ سے فائیو جی ٹیکنالوجی کا آغاز ممکن نہیں، درآمدات پر پابندی کی وجہ سے ٹیلی کام نیٹ ورک کی اپ گریڈیشن بھی شدید متاثر ہوئی ہیں، ان حالات میں 5G کے لیے اربوں ڈالرز کے آلات کی درآمد کرنا بالکل بھی مناسب نہیں، پاکستان کی تقریباً آدھی آبادی انٹرنیٹ استعمال نہیں کرتی۔■

'Make in Pakistan' colours 12th IEEEP Fair

Pakistani companies have shown their resilience indicating a better future: Engr Khalid Pervez

The 12th edition of the Institute of Electrical and Electronics Engineers Pakistan (IEEEP) Fair, a showcase of innovation and collaboration in technology and engineering, will take place at Karachi Expo Center from October 3-5, 2023.

Sindh governor Kamran Tessori is likely to be the chief guest of the inauguration session of the fair, to be started at 10:30 AM. A large number of dignitaries from the engineering fraternity and the government are also expected to participate in the moot.

The information poured in so far suggests the moot is likely to be a robust one in the wake of Pakistan's current economic scenario—a rare scene that has eclipsed every aspect of business and commerce of the country.

Probably because of this uncertain fiscal situation, an urge to pay serious attention to local manufacturing is most likely to take a driving seat in the fair which is embedded by a conference focusing on Make in Pakistan—a slogan long echoing in the nook and corner of the country but stands far from being materialized in business sector as well as the corridors of power. What this moot is to offer is also to witness any serious move in this direction.

But still, the level of participation of Pakistani companies that have committed to participate in the fair suggests surrender is no option for them and they continue to make endeavors to make roads in terms of local manufacturing of engineering products which many claim is the only recipe for the development of the country.

A manifestation of commitment to this direction is evident from the list of participants in which most of the platinum companies of the exhibition are from Pakistan. The total platinum sponsors include five companies. However, the list of sponsors includes 5 Gold, 6 Silver, and 7 Brown companies.

The exhibition spread over 3 halls with over 200 exhibitors in attendance is expected to attract over 15 thousand visitors which will include professionals from relevant sectors of the engineering sector.

The engineering and technology universities have also decided to exhibit their projects which show an effort in terms of Industry-Academia Collaboration between the industry and academia.

The second day of the moot encompasses three conferences altogether and will touch on significant aspects of the engineering industry.

Talking to Engineering Review, IEEEP Karachi Chapter chief Engr. Khalid Pervez said the response

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ELSEWEDY ELECTRIC's Pakistan; A testament to Growth, Dedication & promoting make in Pakistan

By Ishtiaqul Haq | Advisor to CEO Elsewedy Electric Pakistan

For more than eight decades, ELSEWEDY ELECTRIC Group has stood as a global leader in integrated energy solutions. Evolving into a diversified conglomerate with a formidable presence spanning 37 production facilities worldwide and employing a workforce of over 15,000 dedicated professionals, our journey has been nothing short of remarkable.

Our foray into Pakistan's dynamic energy sector began in the wake of the COVID-19 pandemic in 2021, marked by a substantial investment plan. A moment of pride came as we acquired Validus Engineering Pvt Limited, formerly known as the Siemens Transformer Manufacturing Facility in Karachi. This facility carries a storied legacy of transformer manufacturing that spans over five decades, having supplied more than 700 power transformers of varying capacities to utilities within Pakistan and abroad.

Since taking over this transformer manufacturing facility, ELSEWEDY ELECTRIC has injected significant capital into enhancing infrastructure, incorporating cutting-edge machinery, deploying advanced testing equipment, and instituting comprehensive workforce training programs.

Aly Abdelhafeez
Mnaging Director

Graced by the blessings of Allah, steadfast dedication from our Pakistani & Egyptian team, and encouragement from local utilities, we take immense pride in sharing our pivotal accomplishments:

The transformation and modernization of our Power Transformer facility in Pakistan to align with the latest international manufacturing standards.

Remarkable capacity enhancements, enabling the production of transformers up to 220 kV and 250 MVA.

The successful Type Testing completion for 40MVA, 132 kV Power Transformers by a STL-accredited European Independent Laboratory. This solidifies our standing as a trusted source for high-quality transformers, catering to the domestic needs of our esteemed customers in Pakistan.

A resolute dedication to championing the "Made in Pakistan" brand through the export of Power Transformers to pivotal markets, bolstering the nation's foreign currency reserves.

We are delighted to announce that we have already exported four power

Contd on page 19

PAKISTAN CABLES LAUNCHES THE HIGHEST VOLTAGE (69 KV) CCV line for MV cables in Pakistan

Pakistan Cables launched the nation's first highest voltage (69KV) CCV line for Medium Voltage (MV) cables through world class German technology.

As the pioneer in the wires and cables industry in Pakistan, the company has a legacy of breaking barriers. In addition, Pakistan Cables has also set up a High Voltage Testing (HVT) facility at Nooriabad, which enables testing of cables at higher voltage grades.

"This is a significant milestone for the Company during its 70th year anniversary. It reflects 70 years of uncompromised dedication and setting Industry benchmarks. I am thrilled at the outcome and proud of our team, who drove the project with a lot of hard work.", said Fahd K. Chinoy, Chief Executive Officer Pakistan Cables Ltd.

To ensure the highest quality and efficiency for Medium Voltage (MV) Cables, Pakistan Cables brings cutting edge German technology in the form of the TROESTER® MV CCV Line for the first time in Pakistan. Proven engineering excellence, the TROESTER® CCV line, is an outcome of decades of dedication in the Extrusion industry; a befitting choice for Pakistan Cables as an industry pioneer in Pakistan. The world renowned TROESTER® CCV line set up exclusively at the new Pakistan Cables Nooriabad factory is focused on manufacturing highly efficient product assurance facilities reflected in its trusted range of product solutions, both at home and abroad.

Key Features of the new CCV line for MV Cables:

- Highest capability of 69 KV in Pakistan.
- Fast product changes matched with high production speed ensure timeliness.
- Efficient sag control system for superior accuracy.
- Fully automatic compound handling system ensuring a contamination free line, an absolute essential for superior quality product.
- In line X-ray machine for checking concentricity, thickness, ovality and overall diameter of all three layers of insulation.

Pakistan Cables possesses a range of High & Medium Voltage cables possible.

The Company's world class and highly integrated manufacturing facility at Nooriabad, boasts various sophisticated cable manufacturing technologies with rigorous quality control and

- Highly skilled engineers incorporate innovative developments and experience directly in the machine components like extruders, extruder heads, CCV tubes, cable machinery and line controls.

In-line Dry Curing Process

Pakistan Cables employs in-line drying curing for all its CCV lines along with the state-of-the-art triple cross head extrusion where the conductor screen, Insulation and Insulation Screen are extruded simultaneously by means of a Triple Cross Head which has following advantages:

- Reduces micro voids and moisture content in insulation and ensures enhanced and stable breakdown strength and uniform insulation structure.
- Ensures extremely accurate layer thickness
- Ensures high purity in the frontier limit between the semi conductive layers and the insulation.
- Provides optimal fusion of the individual layers without contamination.
- Ensures a firm bond and smooth interface between each layer thus improving electrical properties.
- Prevents unforeseen damage to the conductor or insulation screen during manufacturing process.

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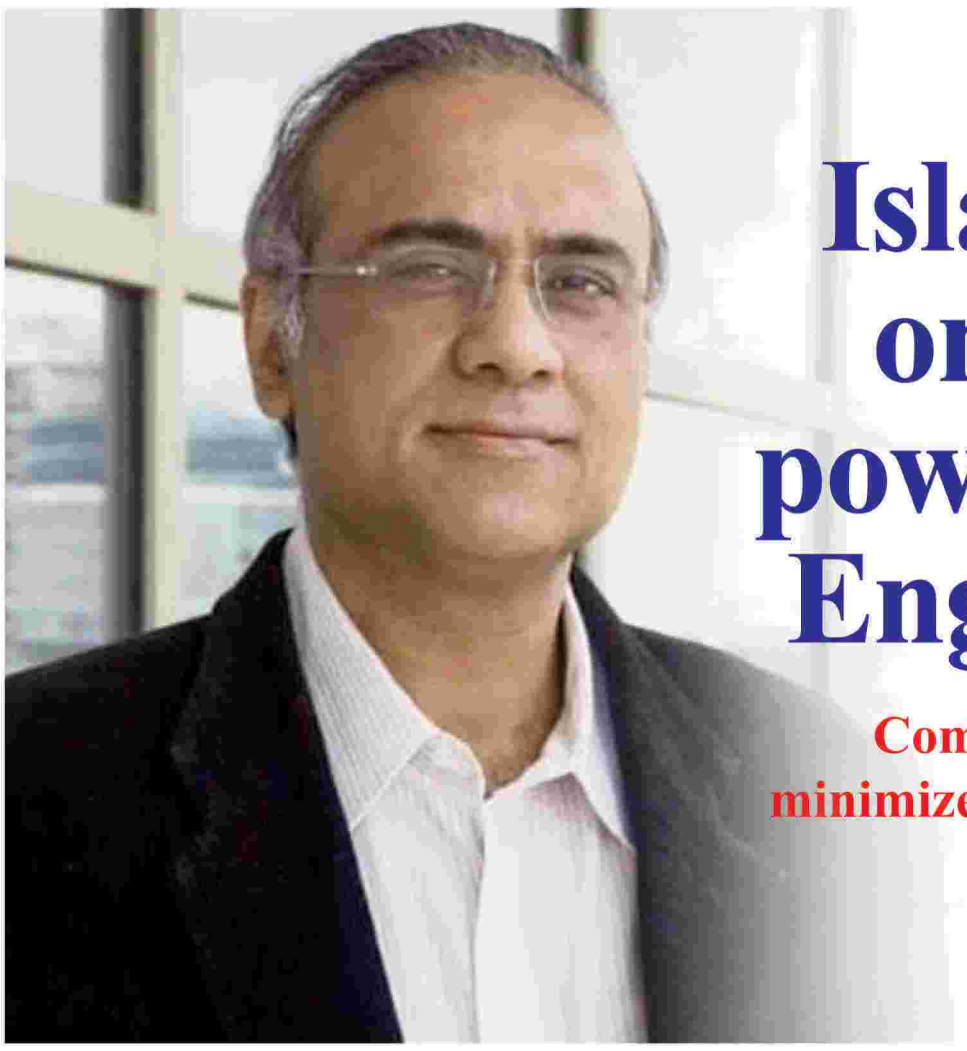

Island mode is the only solution for power system issues: Engr. Tanveer Jafri

Combined power losses of 37 pc can be minimized; what is required is will, says head of Jafri & Associates

Pakistan's power woes can be addressed and of course, there is a solution to the issues connected to electricity and its tariff, says Engr. Tanveer Ahmed Jafri. 'We as consultants have been presenting remedies for the issues at all forums.' There is a solution available but what is required is the will, he adds.

Elaborating on the issue in an interview with Engineering Review, he says before electricity reaches our homes, there are three stages; generation, transmission, and, distribution. There is a myth that a hundred percent generation can be ensured through renewable energy. But no country in the world including the US, North America, Western Europe, Germany, or China has been able to achieve it. There are abundant renewable power projects in these countries but they are intermittent sources of energy. One cannot asses the availability of sources of wind power, solar, or hydropower. If the installed capacity of a solar project is 100 megawatts, you cannot get more than 22 percent generation of the capacity. Wind will give you 34 percent and hydro 45 percent on a yearly average generation. You cannot avail full capacity of the project. Instead, nuclear, gas, oil, and coal are considered base load projects. In Pakistan, oil and gas are imported, nuclear is available but with very low capacity, and the coal for which we reimburse equity with foreign mining investors. Thar coal is the source on which we can begin localization. However, there is a shortcoming of Thar Coal because being lignite its transportation and storage on a large scale is an issue. We are running these projects on optimal levels.

Once we had WAPDA with General Manager Thermal who was acquainted with the complete power network in Pakistan. Following the unbundling of WAPDA, we formed generation companies, DISCOs and NTDC, and down to CPPA. To regulate them, we have an organization called NEPRA. Now NPCC—

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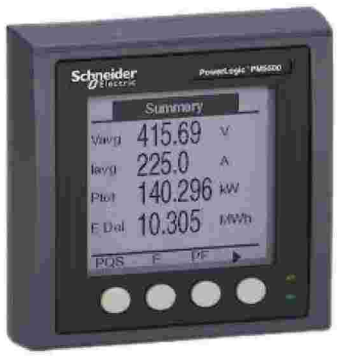

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Continuity in policies is a must for economic growth: Alnoor Sheriff

What our country requires is continuity in policies for economic growth, says Alnoor Sheriff, the Managing Director of Jubilee Corporation, a company known for its honest business and splendid aftersales service in Pakistan. Mr. Sheriff believes acquisition of knowledge and its use in your thought process is the key to success.

What is your view on current economic state of the country?

The economy is a very hot topic these days and, very rightly so, as the impacts are from beginning to end. In the current situation, there is quite volatility in Pakistan's economy but it should not be looked at in isolation. Given the current situation around the world, some factors are making it very challenging for all countries. As a result, the cost of energy and food is increasing and thus affecting economies, especially in the developing world and we are one of them. Yes, some internal factors are compounding the problem in Pakistan.

Yes, there is a global impact factor but still, why do we experience repeats of the economic difficulties all the time? Do you see any internal factors that we are unable to manage our economy?

Trying not to step into the political domain, but yes challenges have been prevalent, with good times and not so good times and life is about overcoming challenges. But what we need to learn is the element of continuity, which is a must. We need to decide on some basics of how to go about the economy. Geopolitical factors will continue to affect and they are a reality but the continuity of policies is necessary without which we will not progress. It should be decided that no new government will deviate from the direction we set and then ultimately we will progress.

How hopeful are you that we are realizing about correcting our direction and then the element of continuity in policies?

I am hopeful and trying to be optimistic, as I am an optimist. If you see the population and the national resources we have in the country like tourism, mining and its basic industries, availability of intelligent manpower, and good workforce potential, all these factors merit starting the basic activity in these sectors and then can go for value addition. I think these are the areas where our strength lies and I think we have not fully utilized our energies in these areas. We have tried to emulate populist areas which may seem good but are not more productive in the areas where our strength is.

In Pakistan's difficult economic situation, how did you strategize your company to continue doing business?

Hard work and focus were two major elements that worked for us. The goals we have set ought to be achieved and it is very important. Stress and distractions do come, they hold us back from progress, but our exposure and education was there to be utilized in such a situation. In these times right from the post-COVID days which hampered our planning and progress, we have tried to stay focused and achieve the best of every variable we got rather than surrender.

Of course, surrender is no option but in these difficult times what was your company's driving force to overcome challenges?

The first element is the acquisition of knowledge and its use in your thought process to foresee the things, likely to come in the future. It is very important and normally we escape it due to the influx and stresses of the present and forget to look forward to the future.

The second element was that we had a good team around. We kept on doing professionalization and communicating with them what we see as a management company, and how and what we foresee in the future. God knows better, but we as humans can access the right kind of information and knowledge to foresee the future. Using this feedback and sharing it with the team helps us to have a better response collectively. We received a very positive response from our team too, to address this challenge.

Your company is a family business and MashaAllah it runs successfully even after four generations and has earned a big name. Have you ever given it a thought to start manufacturing engineering products locally that you import to Pakistan?

At a family level, this thought process goes on continuously and we keep on evaluating what should be done and how it can be done. But it is important to see what is the best thing to do keeping in view our country. We are basically dealing in technical products; safety items which require quality and performance guaranteed. These products are developing very fast. We see there is a potential for local manufacturing but we are a bit far from efficient manufacturing. The quantity of these products in terms of value is very spread out thus the single items that have a high volume and are supported by average manpower and environment are required without which it becomes assembly rather than manufacturing. I think assembling is nothing but to offset the cost and it is not good manufacturing, which is about improvement. In Pakistan, the most natural industry is textile-based; we have cotton and fertile lands and I think these are the industries that should have developed first. Then we move on to higher-end engineering after getting raw materials.

If I reflect upon company history which is spread over 4 generations now has values that we have inherited from our forefathers and have carried forward. When the company was formed, the intention was to be a catalyst for the development of the switchgear industry. At that time, the availability of switchgear was very scarce and there were very few people who manufactured them as the components were somehow restricted. The objective is to ensure the availability of good components required for the economy in Pakistan so that further value addition industry can be done. By the grace of God, what we see today is a widespread number of switchgear manufacturers in Pakistan. This is a natural growth in the industry. We continue expanding it and taking it forward.

How many products are you dealing in and what are the company's expansion plans?

We are dealing in a wide range of products which provide solutions and in this way, we are dealing with 30 manufacturers and

Contd on page 19

Best Electric Panels: a company with promising ability to understand entire industrial process

Best Electric Panels, a known switchgear concern in Pakistan claims the company had a promising ability to understand the entire industrial process from the beginning which helped it to create space from the very onset. This ability led to becoming a company that offers solutions to the industry to the best of its satisfaction.

Founded in the 1970s as a Sheet Metal Fabrication Company, it then gradually traveled to be transformed into a switchgear provider in Pakistan with a gradual development of industry and industrial processes in the country.

The company says: it was Mr. Abdul Hafeez Shaikh who as the Chief Executive Officer (CEO) back in the 1970s founded the company which since 1992 has developed to be a professional and committed name in the field offering quality products and services to the industries in Pakistan.

With uninterrupted effort and hard work, the company has been able to cobble up a team of professionals which with the passage of time has proved to be an efficient deliverer responding to the jobs from the industry.

Best Electric Panels claims, its years-long focus has produced a unified team filled with passion and confidence and the company has demonstrated an ideal performance in the field of efficient technical solutions in response to customers' requests.

Best Electric Panels, eyeing its vision attaches top priority to supply to the customer design by choice, manufacturing, and maintenance of indoor/outdoor low voltage distribution systems. Also, it provides services for designing highly specified automation and control solutions, repair services, renovation as well as new installations.

The company has embedded the acquisition of the latest technologies with its ethics and has made it a continuous process. Thus, it focuses on looking for emerging technologies around the world and

facilities for bulk storage of products and components to service the immediate needs of customers whom it deems as a major element of the infrastructure.

Understanding client requirements is key to success and Best Electric Panels believes it from the core. Not only that but also producing high-quality products as per local and international standards, under the supervision of qualified engineers are the areas where the company put its efforts with a serious endeavor. All that leads the company to fulfilling commitment and customer satisfaction because it believes these factors make any company reputed in the market.

The market is an open ground for competition which paves the road to producing high-quality products and upgrading the facility with the latest technology. This is how Best Electric Panels looks at competition in the industry. Also, it never blinks an eye on the training side of its teams whose performance maintains its reputation in the market.

Best Electric Panels when asked about Chinese products in the market, thinks Chinese products are playing a major role in this industry and the major reason is that they are good and high standard with low price. Also, they maintain international standards.

Respect & Credibility: Best Electric Panels follows nothing but international and local standards. It keeps its product as per client requirements and fulfills its commitment with passion.

Customer service is an important part of our

Contd on page 17

IEEE Karachi Section won the IEEE EPICS Grant $4000 for the Smart Glove Project

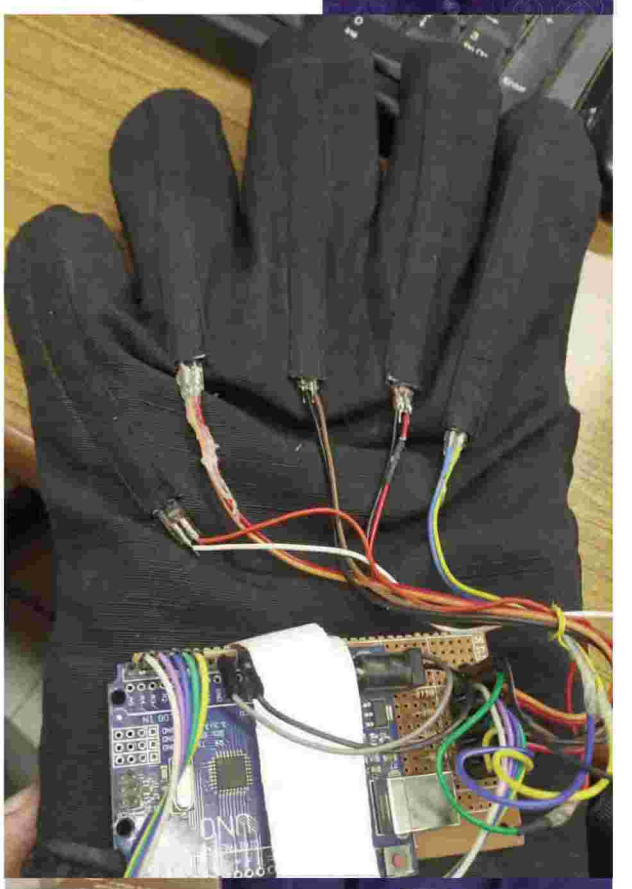
Project Lead Engr. Dr. M Sadiq Ali Khan
Members: Engr. M. Zakir Sheikh | Engr. Dr. Asim Ali Rizvi | Engr. Dr. Bagwandas

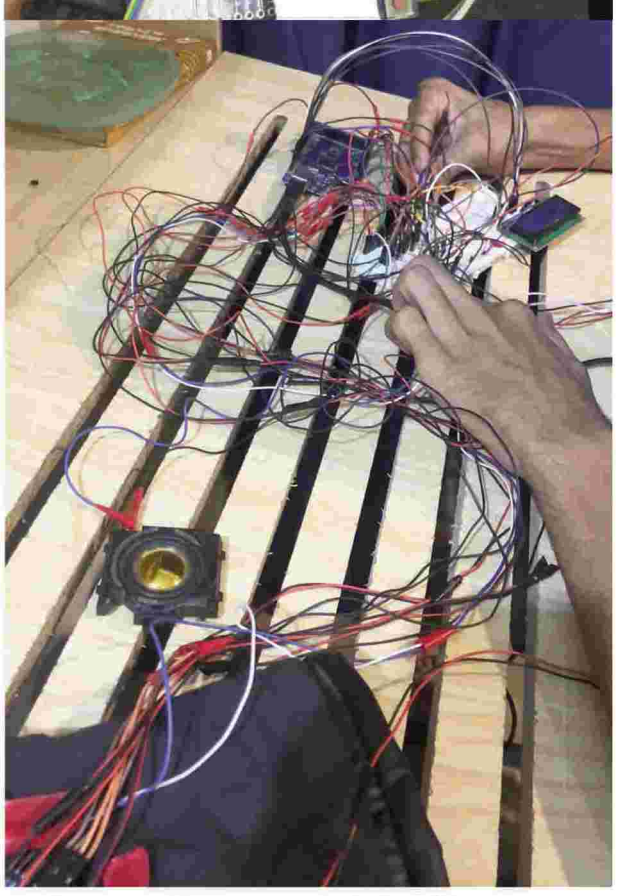
The main objective of this project is to reduce the communication barrier between normal people and special people who are not able to have a normal conversation. The best way to present your idea is through speech. But some people don't have the power of speech; the only way to communicate with others is through sign language.

This project assists a dumb person in communicating with normal people and to build an automated device that translates sign language into speech in order to allow communication between the voiceless communities with the public.In this proposed system, a smart glove is introduced to help dumb people to communicate with others. The dumb person has to wear this glove. This project converts sign language to text and speech.

This project would be useful for the speech impaired person by providing them a medium through which they can communicate with one another and with normal people.

Being able to communicate is perhaps the most important of all life skills. Deaf and dumb people face serious difficulties communicating with normal people in society.As they are able to interact with normal people, they gain a bit of confidence in them and they are gaining a positive attitude towards life and also make them more comfortable and they are also not guilty that they have been born as dumb. They can share their ideas, thoughts, views, their emotions with others. Using smart gloves, dumb people grow in their carrier independently. For a growing nation, these people also contribute something.





According to Project Lead Dr M Sadiq Ali Khan, this Project has a greater impact on the disabled people of Pakistan and this impact will be a very good solution to bring the disabled people back to their ordinary life. This Project is a major milestone in the rehabilitation of the disabled people in Pakistan, especially in Karachi.

The project prototype will be completed by the end of this year and create a positive impact on society and community service. Thanks to EPICS at IEEE for supporting this cause , EPICS helps fulfill the IEEE's core purpose of fostering technological innovations and excellence for humanity.■

NEA declares Punjab reps, kicks off membership drive

By Engr. Syed Jawad Hussain Shah

National Engineers Association (NEA) has begun organizing itself in Punjab and has appointed its representatives in 15 districts of the province.

With announcing its representatives, the organization has also started its membership campaign in the province.

In this connection, the association organized a meeting at the offices of the Pakistan Engineering Congress (PEC), Lahore.

Syed Abdul Qadir Shah Chairman National Engineers Association chaired the moot which was attended by Engr. Najam Waheed, President, Pakistan Engineering Congress, Engr. Iftikhar Ahmed, Engr. Syed Jawad Hussain Shah, Engr. Amjad Saeed, Engr. Amanat Bhatti and others.

Syed Abdul Qadir Shah briefed the moot of achievements so far and the future plans of NEA. He said young engineers can play a vital role in the development of the country and to encourage them they have started membership campaign all over Pakistan so that young engineers are gotten in the loop and trained.

Also, Engr. Shah distributed certificates among district representatives of NEA for Lahore, Engr. Ateeq Ur Rehman, Nankana Sahib, Engr. Ghulam Jillani, Sheikhupura, Engr, Ehtisham, Gujrat, Engr. Ali Anees Deputy Representative, Shahiwal, Engr. Irtaza Shahid, Narowal, Engr. Waheed Aftab, Bahawalnagar, Engr. Imran Mushtaq, Rahim Yar Khan, Engr. Mehmood, Multan, Engr. Mirza Zohaib, Kasur, Engr. Mohsin Azam, Lahore, Engr. Ali Zahid Deputy Representative.

Moreover, Engr. Zeeshan has been made Media Coordinator for Lahore Division and Ch Ahsan Divisional Coordinator NEWA Lahore.

District Representative Rawalpindi Engr. Jehanzaub SDO and District representative Gujrat Engr. Iqbal Hussain Shah SDO has already been notified by Engr. Syed Abdul Qadir Shah and Engr. Mukhtiar A. Sheikh at Marriott Islamabad besides representatives of Gujranwala, Hafizabad, Faisalabad, Sadiqabad..■

Best Electric Panels

Contd from page 15

business, believes Best Electric Panels and also understands how significant is this area for the company thus it provides support to a customer in a way that is satisfying to the customer and resolves their concerns.

Though the skies are the limits, the company looks satisfied with its current standing comparing scenarios half a decade back saying we are satisfied if we go back just 5 years and see our standing.

At present, the company is developing its facility to produce MV Panels in its own factory and wants to capture the specified sector for upcoming business. It says during manufacturing we use modern technology such as Fiber laser cutting machines, CNC machines, and CNC bending machines with a highly qualified and experienced team and that's the reason behind our high-quality products.

Best Electric Panels resolves to focus on good quality products, fulfilling commitment with the provision of aftersales service.■

IEEEP Fair

Contd from page 9

from Pakistani companies is good and investing money from their part in the current situation showed their commitment and credibility.

Pakistani companies have shown their resilience which is a major indicator for a better future as regards local manufacturing in Pakistan, he says. Engr. Pervez said they would boost Pakistani companies through such a process.

IEEEP Karachi Chapter chief said by the grace of God, they had succeeded in maintaining the value and targets of the event though they wished more but retaining them was itself a big success. This, he says will pave the way to achieve more progress in the future.

Besides Pakistani exhibitors, the fair will have a number of international companies from various countries including China, Turkey, Korea, and others.

It merits mentioning that the IEEEP had attracted considerable response in the soft launch held in September. The organizers were confident about the response that the visitors were supposed to see at the fair.■

Island mode is the only solution for power system issues: Engr. Tanveer Jafri

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part of NTDC—decides the flows for each DISCO's in the country. Now when we generate power, we are required to transmit it and then distribute it down. For instance, if we want to transmit power to Hyderabad and the dispatch from Mangla is cheaper the cost of the transmission losses is being borne by the consumer. If we include distribution losses, the combined losses stand at 37 percent. This loss is to be minimized.

In recent years, Pakistan has witnessed power blackouts quite often because our system is linear and thus cascaded and if any fault occurs at any point, all our system comes to a shutdown.

Given this situation, the question is what should be done so that the stability of the grid is ensured and also the losses could be minimized. We have powerhouses at the load centers and more should be built there besides building rings so that they continue running in an island mode if any fault develops anywhere in the country. With this model, transmission losses would come down to almost zero or a negligible level. For instance, two coal-fired power projects, connected to the national grid may be given to K-electric which will get 900 megawatts. Since these are IPPs and work in different modes that are cheaper for NTDC, it benefits NTDC because the power acquired in this model is cheaper for the company.

In many parts of the world, large companies have a buyer that buys electricity, water gas, etc., and focuses the prices assessing the cost at the end user. This is the economic model of electricity which is successful in the world because it is consumer-centric.

Pakistan does not have a consumer-centric policy. Neither NTDC nor IPPS not staging protests or burning electric bills; the customers do it of course as they are frustrated. Is there anything to address their issue?

If someone uses a generator for a few hours or installs solar power panels, he/she will not bear transmission losses but if they get power from outside they have to pay on account of such losses. It is not necessarily because of any inefficiency, it is an inherent loss as the energy dissipates in the form of heat. These transmission losses are included in the tariff and all companies claim it in their cases with NEPRA. Likewise, Gen companies and distribution companies claim money for such losses. Therefore, if all power load centers were given supply to their respective areas or cities, these losses would be minimized and thus affect the tariff.

Would not this model create disparity in the availability of electricity in the country? Engr. Jafri says it will not create disparity. For instance, cities like Karachi which has a 20-plus population around the world have a capacity of one to one and half lakh megawatts to match the development activity of that city. We have 2 to 3 thousand megawatts in Karachi. We are energy energy-deficient country. For instance, we should have planned where to build a powerhouse to address excess power in any city for the area.

We have prepared our future power plan but unfortunately, this aspect is missing as to where the powerhouses are set up. Location is very important in the power field like it is in real estate.

Power is expensive in Pakistan no doubt and given such a landscape, does the industry approach you as to how to deal with this issue or seek any solutions?

The industry is in a state of influx as the companies are making losses because of the increase in operational costs which embeds such utilities as critical commodities.

While our industry faces issues concerning electricity, water, and gas, we have technologies to tackle them and the industry should move to get benefit from such technologies. But it is like burning the candle from both ends. If any industry has plans to get a return of 20 percent in 5 years besides dealing with many headaches. They think if they invest that money in the banks they can get such a return without any issues. They ask why they should set themselves up for so many issues of running the industry.

The people are looking for utilities for big projects like in the construction sector and they approach us for ideas. We float ideas with the investors too so that they can benefit from them. But the issue is that new technologies cannot be developed locally, they are required to be imported, and they cannot do it.

Why should not such technologies be developed locally? 'Consumers should be offered additional benefits so that they are encouraged to buy Pakistan-made things, ' Engr. Jaffri says. Also, you cannot levy extra duties lest the WTO comes into action. If you sell any local solution, you will be asked if anyone has acquired it before. Then we have to show the certifications and also have to offer considerable tax rebates to make it acceptable. The buyer should be offered incentives so that even if they have any doubts about the reliability, they look at the low-cost effect.

Do you see any wider acceptability for the use of Pakistan-made products in the wake of difficulty in import because of the difficult economic situation?

The people are ready to use Pakistan-made products provided they are locally made in a real sense. We don't have proper certification of the projects as we see in the developed world. We need that it proves our testing and trial of the projects made in Pakistan. We need an accrediting organization like CE in Pakistan which assures the buyer that the product is as per international standards.

Tell us how AI is influencing our industry as many people have been afraid of it lately.

It has helped people improve their write-ups as they are using it like a student. In industry, I don't see much application of AI but I have seen an industry experimenting with opting for microwaves instead of laying down a cable to save cable cost. They are doing it for the first time in Pakistan. They have put data in the AI to get to know how it is possible.

Do the consultants feel threatened by ChatGpt which can be used by anyone and can make drawings?

Yes and no. Designing and drawing is a professional engineering feat; it is stamped by a professional engineer and is a norm all over the world. The rest no matter efficient people are not authorised for consultancy; they don't have proper licenses from regulatory bodies like PEC etc. – ***By Mohammad Salahuddin***

Continuity in policies

Contd from page 14

if we see them in number they range from a few hundred to thousands. Like we said earlier what we have to see is what's required in what kind of industry. What is important is that we provide solutions; it's not about just delivering a project. It includes presales, sales, and post-sales, which means delivery of a complete package that we provide.

We have heard appreciation as regards your after-sales services suggesting that you have good systems along with efficient teams of engineers. Is this model working well and the company is satisfied?

These compliments are like music to the ears. The people appreciate it and thank you very much. It is our responsibility to keep on doing it in a much better way in the future also. But what we focus on is what we deliver with the product; it is critical. We believe in honest dealings with our customers, which means it is about giving the right solution and product rather than just delivering the project, getting money, and walking away. MashaAllah, even today there are products that we gave 20 years ago and are functioning properly. Our engineers maintain them and we don't believe in putting our customers under unnecessary financial burden.

Is your company involved in CSR activities? Like many companies are working in various CSR fields like environment etc.?

All these things are interwoven and importantly, these activities should not be superficial. What we focus on is the efficient use of energy and of course, it is debatable these days. The people say it has negative impacts and they are moving towards green energy. What we have tried to do is that we ensure efficient use of power. It is something in another way supporting the environment. Our teams are working on power quality and the efficient use of energy.

– By Manzoor Shaikh

ELSEWEDY ELECTRIC's Pakistan

Contd from page 10

transformers (each 20 MVA) to the UAE, significantly contributing to Pakistan's foreign exchange earnings under the "Make in Pakistan" initiative. Foreseeing further exports in the months to come, we remain committed to fueling Pakistan's brighter future sustainably, bearing an unwavering focus on this great nation. This dedication emanates from our global group and local management alike, showcasing our resolve to excel and serve Pakistan with our extensive expertise and experience. Our persistent endeavors to enhance local value addition and explore investment opportunities in various products and components underscore our commitment to shaping the future of Pakistan's energy landscape. Together, we aspire to illuminate a sustainable, promising future for all.■

PAKISTAN CABLES LAUNCHES

Contd from page 11

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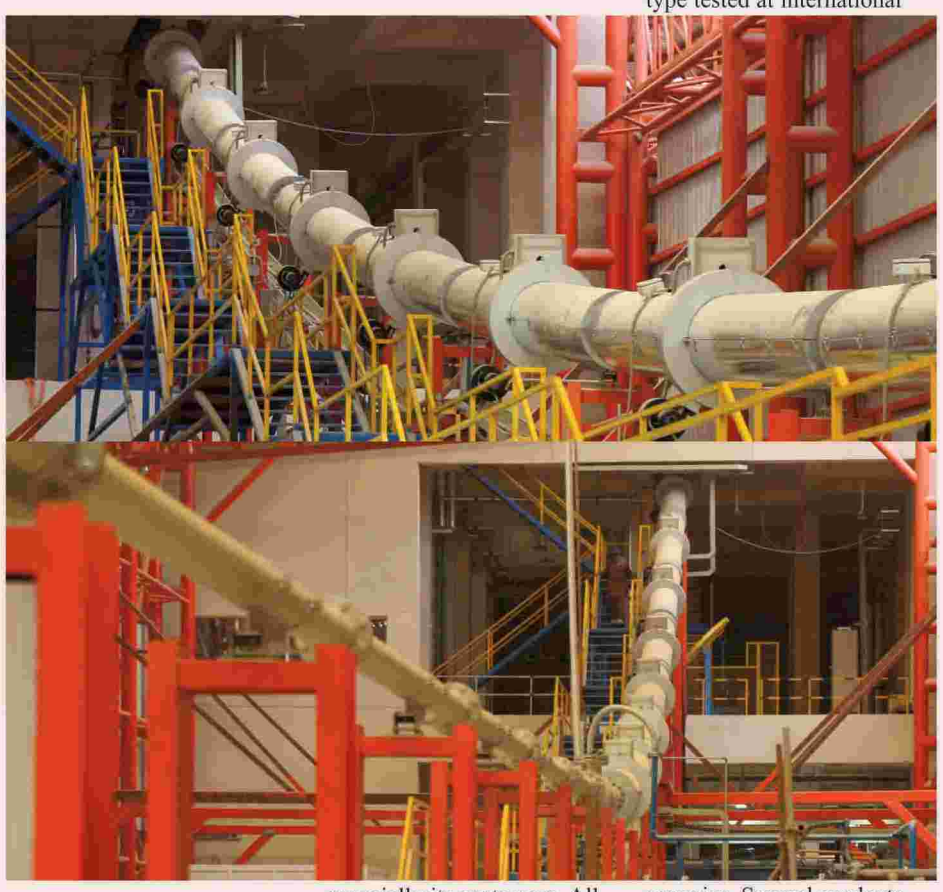

continuous mode for all extruder layers.

• Recording of trends enabled after every two seconds.

• The unit continuously scans 360o geometry of the cable and displays maximum, minimum and eccentricity of especially its customers. All manufactured products fully meet the specifications which they are designed to meet for customers in Pakistan as well as international markets.

Pakistan Cables sources its raw materials from reputed international suppliers. The most important cable constituents such as XLPE material and copper are procured from the world's leading suppliers of cable components.

Products have already been type tested at international agencies. Several products are also type tested and certified by KEMA, Netherlands. Some products are also TUV certified. Type tests are also performed in-house on predefined regular basis to ensure and guarantee the quality of manufactured products. ■

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Celebrating 60 Years of Eminence

Nanoparticles made from plant viruses could be farmers' new ally in pest control

Engineers have devised a new solution to control a major agricultural menace, root-damaging nematodes. Using plant viruses, the researchers created nanoparticles that can deliver pesticide molecules to previously inaccessible depths in the soil. This 'precision farming' approach could potentially minimize environmental toxicity and cut costs for farmers.

A new form of agricultural pest control could one day take root -- one that treats crop infestations deep under the ground in a targeted manner with less pesticide.

Engineers at the University of California San Diego have developed nanoparticles, fashioned from plant viruses, that can deliver pesticide molecules to soil depths that were previously unreachable. This advance could potentially help farmers effectively combat parasitic nematodes that plague the root zones of crops, all while minimizing costs, pesticide use and environmental toxicity.

Controlling infestations caused by root-damaging nematodes has long been a challenge in agriculture. One reason is that the types of pesticides used against nematodes tend to cling to the top layers of soil, making it tough to reach the root level where nematodes wreak havoc. As a result, farmers often resort to applying excessive amounts of pesticide, as well as water to wash pesticides down to the root zone. This can lead to contamination of soil and groundwater.

To find a more sustainable and effective solution, a team led by Nicole Steinmetz, a professor of nanoengineering at the UC San Diego Jacobs School of Engineering and founding director of the Center for Nano-ImmunoEngineering, developed plant virus nanoparticles that can transport pesticide molecules deep into the soil, precisely where they are needed. The work is detailed in a paper published in Nano Letters.

Steinmetz's team drew inspiration from nanomedicine, where nanoparticles are being created for targeted drug delivery, and adapted this concept to agriculture. This idea of repurposing and redesigning biological materials for different applications is also a focus area of the UC San Diego Materials Research Science and Engineering Center (MRSEC), of which Steinmetz is a co-lead.

"We're developing a precision farming approach where we're creating nanoparticles for targeted pesticide delivery," said Steinmetz, who is the study's senior author. "This technology holds the promise of enhancing treatment effectiveness in the field without the need to increase pesticide dosage."

The star of this approach is the tobacco mild green mosaic virus, a plant virus that has the ability to move through soil with ease. Researchers modified these virus nanoparticles, rendering them noninfectious to crops by removing their RNA. They then mixed these nanoparticles with pesticide solutions in water and heated them, creating spherical virus-like nanoparticles packed with pesticides through a simple one-pot synthesis.

This one-pot synthesis offers several advantages. First, it is cost-effective, with just a few steps and a straightforward purification process. The result is a more scalable method, paving the way toward a more affordable product for farmers, noted Steinmetz. Second, by simply packaging the pesticide inside the nanoparticles, rather than chemically binding it to the surface, this method preserves the original chemical structure of the pesticide.

"If we had used a traditional synthetic method where we link the pesticide molecules to the nanoparticles, we would have essentially created a new compound, which will need to go through a whole new registration and regulatory approval process," said study first author Adam Caparco, a postdoctoral researcher in Steinmetz's lab. "But since we're just encapsulating the pesticide within the nanoparticles, we're not changing the active ingredient, so we won't need to get new approval for it. That could help expedite the translation of this technology to the market."

Moreover, the tobacco mild green mosaic virus is already approved by the Environmental Protection Agency (EPA) for use as an herbicide to control an invasive plant called the tropical soda apple. This existing approval could further streamline the path from lab to market.

The researchers conducted experiments in the lab to demonstrate the efficacy of their pesticide-packed nanoparticles. The nanoparticles were watered through columns of soil and successfully transported the pesticides to depths of at least 10 centimeters. The solutions were collected from the bottom of the soil columns and were found to contain the pesticide-packed nanoparticles. When the researchers treated nematodes with these solutions, they eliminated at least half of the population in a petri dish.

While the researchers have not yet tested the nanoparticles on nematodes lurking beneath the soil, they note that this study marks a significant step forward.

"Our technology enables pesticides meant to combat nematodes to be used in the soil," said Caparco. "These pesticides alone cannot penetrate the soil. But with our nanoparticles, they now have soil mobility, can reach the root level, and potentially kill the nematodes."

Future research will involve testing the nanoparticles on actual infested plants to assess their effectiveness in real-world agricultural scenarios. Steinmetz's lab will perform these follow-up studies in collaboration with the U.S. Horticultural Research Laboratory. Her team has also established plans for an industry partnership aimed at advancing the nanoparticles into a commercial product. -- SD

Predicting the sustainability of a future hydrogen economy

As renewable energy sources like wind and solar ramp up, they can be used to sustainably generate hydrogen fuel. But implementing such a strategy on a large scale requires land and water dedicated to this purpose.

Recent research in Nature Communications led by Carnegie's Lorenzo Rosa and visiting scholar Davide Tonelli from ULB and UCLouvain analyzes the challenges involved in sustainably meeting different hydrogen demand scenarios on a country-by-country basis.

Electrolysis is a method for producing hydrogen that involves splitting water into oxygen gas and hydrogen gas, which can be stored and used as fuel or feedstock to produce useful chemicals. This process can be powered by fossil fuels like coal or natural gas, or by renewable energy sources like wind and solar -- both of which require space to deploy.

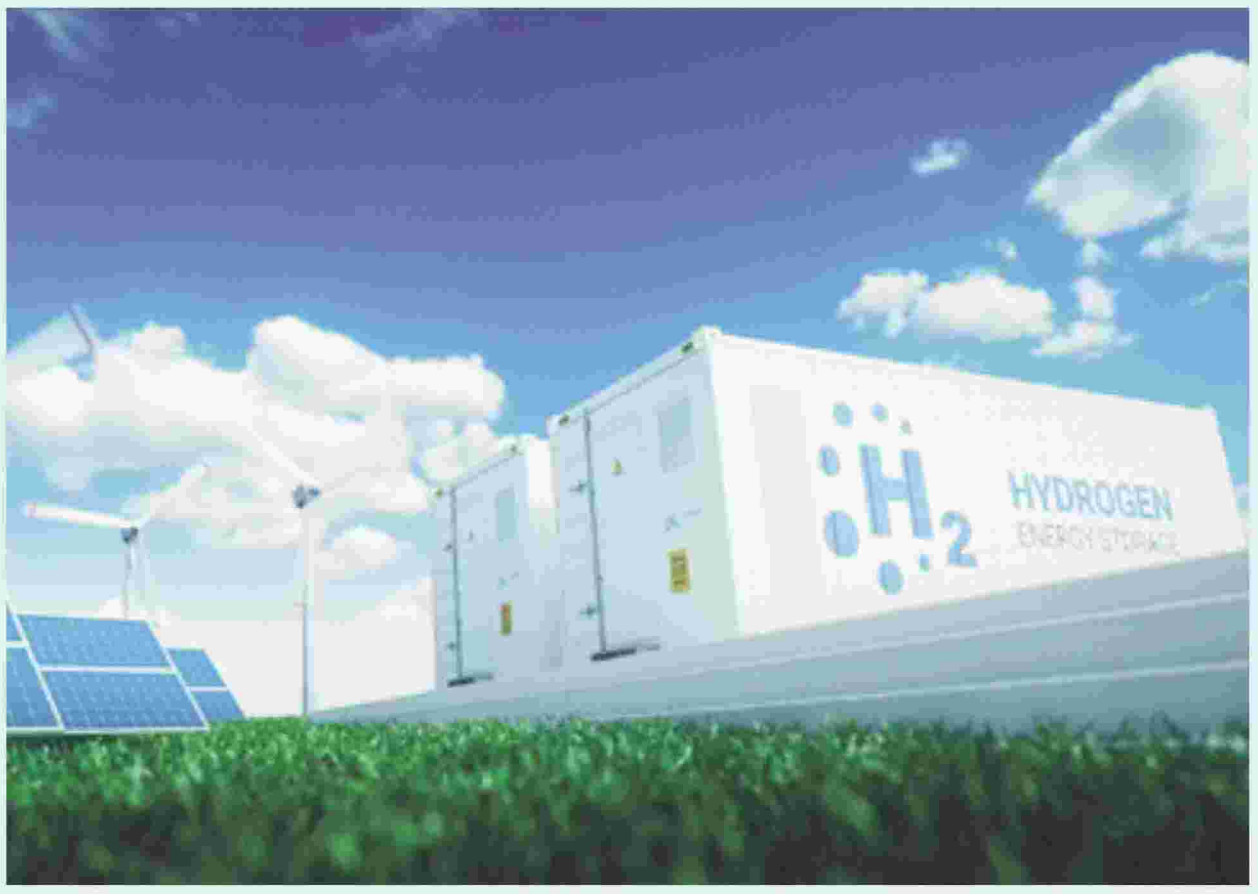
"Today, hydrogen is mostly used in refineries and the production of chemicals," Rosa explained. "But in the future, demand for hydrogen could increase more than fivefold, due to adoption of hydrogen or hydrogen-derived products in transportation, industrial heating methods, and steel manufacturing techniques. There is an opportunity to meet this increased demand with sustainably produced hydrogen."

He and Tonelli -- working with Carnegie visiting scholar Paolo Gabrielli (of ETH Zurich), Carnegie's Ken Calderia, Alessandro Parente of ULB, andFrancesco Contino of UCLouvain -- found that due to land or water scarcity, less than half of the projected 2050 demand for hydrogen fuel could be both produced and used locally using wind or solar power.

"If you look at how much water would be needed globally to produce enough hydrogen to meet humanity's needs in 2050, it's only 0.6 percent of the world's available water," Tonelli said. "But when you look at local production for local use, the picture can be different."

It turns out that in a net-zero world with no carbon emissions, some nations would need to rely on importing hydrogen, in pure form or in the form of hydrogen-derived products, from other countries that have greater abundances of land and more favorable solar and wind resources that could be deployed to sustainably produce it in mass quantities.

Rosa and Tonelli found that Southern Africa, Central-East Africa, West Africa,



South America, Canada, and Australia have land and water availability that could make them potential leaders in exporting hydrogen. Conversely, Western Europe, Trinidad and Tobago, South Korea, and Japan would likely need to either import hydrogen fuel or downsize existing industrial output.

The researchers emphasize the importance of national assessments of resources that countries would be willing to expend on hydrogen production.

"Our work indicates countries that have the resources to ramp up sustainable hydrogen production for export," Tonelli said. "But, of course, social, political, and economic factors will determine the extent of installation of renewable technologies and hydrogen production from each nation, which may differ from what would be feasible on paper."

This research is part of Rosa's overall program to probe opportunities and challenges at the intersection of energy, water, and food production, all of which are affected by climate change and population growth.

"As we strive to mitigate greenhouse gas pollution and prepare for the ways that climate change will affect where we live, how we build and sustain communities, and how we feed ourselves, it is crucial that we robustly examine various climate solutions to understand the possibilities that they present, as well as any unintended consequences," Rosa concluded.■

Unleashing the power of AI to track animal behavior

Movement offers a window into how the brain operates and controls the body.

From clipboard-and-pen observation to modern artificial intelligence-based techniques, tracking human and animal movement has come a long way. Current cutting-edge methods utilize artificial intelligence to automatically track parts of the body as they move. However, training these models is still time-intensive and limited by the need for researchers to manually mark each body part hundreds to thousands of times.

Now, Associate Professor Eiman Azim and team have created GlowTrack, a non-invasive movement tracking method that uses fluorescent dye markers to train artificial intelligence. GlowTrack is robust, time-efficient, and high definition -- capable of tracking a single digit on a mouse's paw or hundreds of landmarks on a human hand.

The technique, published in Nature Communications on September 26, 2023, has applications spanning from biology to robotics to medicine and beyond.

"Over the last several years, there has been a revolution in tracking behavior as powerful artificial intelligence tools have been brought into the laboratory," says Azim, senior author and holder of the William Scandling Developmental Chair. "Our approach makes these tools more versatile, improving the ways we capture diverse movements in the laboratory. Better quantification of movement gives us better insight into how the brain controls behavior and could aid in the study of movement disorders like amyotrophic lateral sclerosis (ALS) and Parkinson's disease."

Current methods to capture animal movement often require researchers to manually and repeatedly mark body parts on a computer screen -- a time-consuming process subject to human error and time constraints. Human annotation means that these methods can usually only be used in a narrow testing environment, since artificial intelligence models specialize to the limited amount of training data they receive. For example, if the light, orientation of the animal's body, camera angle, or any number of other factors were to change, the model would no longer recognize the tracked body part.

To address these limitations, the researchers used fluorescent dye to label parts of the animal or human body. With these "invisible" fluorescent dye markers, an enormous amount of visually diverse data can be created quickly and fed into the artificial intelligence models without the need for human annotation. Once fed this robust data, these models can be used to track movements across a much more diverse set of environments and at a resolution that would be far more difficult to achieve with manual human labeling.

This opens the door for easier comparison of movement data between studies, as different laboratories can use the same models to track body movement across a variety of situations. According to Azim, comparison and reproducibility of experiments are essentialin the process of scientific discovery.

"Fluorescent dye markers were the perfect solution," says first author Daniel Butler, a Salk bioinformatics analyst. Like the invisible ink on a dollar bill that lights up only when you want it to, our fluorescent dye markers can be turned on and off in the blink of an eye, allowing us to generate a massive amount of training data."

In the future, the team is excited to support diverse applications of GlowTrack and pair its capabilities with other tracking tools that reconstruct movements in three dimensions, and with analysis approaches that can probe these vast movement datasets for patterns.

"Our approach can benefit a host of fields that need more sensitive, reliable, and comprehensive tools to capture and quantify movement," says Azim. "I am eager to see how other scientists and non-scientists adopt these methods, and what unique, unforeseen applications might arise."

Other authors include Alexander Keim and Shantanu Ray of Salk.

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