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Civil Service Restructuring Brings Engineering Back Into the Spotlight

Manzoor Shaikh

Pakistan's federal government has finalized a sweeping plan to restructure the country's civil service, proposing a shift away from the traditional generalist model towards a system built around professional expertise, specialized recruitment and performance-based career progression.

Among the proposed 11 professional cadres is Engineering—a development that

could have particular significance for Pakistan's engineering community, which has for years been demanding a formal place for engineers within the country's federal civil-service structure.

The reform package, unveiled at a consultative session chaired by Planning Minister Ahsan Iqbal, proposes major changes to recruitment, training, promotions, performance evaluation and the organizational structure of the federal bureaucracy. The proposed reforms are estimated to cost around Rs11 billion to implement.

The government's move

comes after two committees constituted by Prime Minister Shehbaz Sharif worked on civil-service reforms. According to the reform package, the

committees held 18 meetings since September 2024 and reached consensus on 43 of their 46 recommendations. Engineering Finally Enters

the Proposed Professional Structure

For Pakistani engineers, however, the most important element may be the proposed creation of an Engineering professional cadre.

Engineers have been seeking such recognition for many years, arguing that technical decisions involving infrastructure, energy, water, communications, transport and major development projects should have qualified engineers in positions where policy and executive decisions are made.

The demand has also featured prominently in Pakistan

Engineering Council elections, with candidates and groups repeatedly campaigning on the promise of bringing engineering into the civil-service structure. Senior as well as younger engineers have argued that engineers should not remain confined primarily to technical or project-level positions while major decisions concerning engineering policies and national infrastructure are taken by generalist administrators.

Their argument is straightforward: if Pakistan's development policies and engineering projects are to be technically sound, engineers with professional expertise should have a

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Civil Service Restructuring Brings Engineering Back Into the Spotlight

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meaningful role in the civil service and at senior decision-making levels.

This issue is not new. In August 2023, the Senate unanimously passed the Civil Servants (Amendments) Bill, 2023, moved by Senator Engineer Rukhsana Zuberi. The bill sought to ensure that high executive positions dealing with infrastructure, energy, water, communications and works would be held by members of the proposed Engineering Service of Pakistan or registered professional engineers.

The National Assembly's own records also show that its Standing Committee on Cabinet Secretariat considered the Civil Servants (Amendment) Bill, 2023, in May 2023.

The proposed federal restructuring therefore arrives at a time when the engineering community already has a legislative history behind its demand for greater representation in government decision-making.

From Generalists to Specialists

The government's new proposal appears to recognize a problem that engineers have been highlighting for years: the traditional bureaucracy has largely relied on generalist recruitment, with officers potentially moving between fields without necessarily having academic or professional qualifications in the sectors they are asked to administer.

Under the proposed reforms, the government plans to introduce 11 professional cadres covering areas including Human Resources, Law, Engineering, Science and Technology, IT and Telecom, Energy, Climate, Agriculture and Forestry, Education and Health.

The stated objective is to match people with the expertise required for their responsibilities.

This represents a potentially significant change in the philosophy of federal administration. Instead of assuming that a generalist officer can effectively manage every specialized sector, the proposed system would place greater emphasis on professional knowledge and specialization.

National Executive Service Proposed

Another major component is the proposed National Executive Service (NES).

Under the proposed arrangement, positions at BS-20 and above would be opened to competition on five-year contracts against publicly announced performance targets. Serving government officers, private-sector professionals and academics could compete for these positions on an equal basis. The Police Service and Foreign Service would remain outside the proposed NES.

The proposal would also transform the Establishment Division into a Human Resource and Organization Development Division, while reducing federal decision-making

from five tiers to three.

The reform package seeks to make promotion increasingly dependent on performance and professional competence rather than simply seniority.

Lessons From the Military Model

The proposed reforms also draw on human-resource practices used by the Pakistan Army.

One proposed change is to replace the traditional one-day viva voce with a multi-day competency-based assessment modeled on the Inter-Services Selection Board (ISSB). The proposed system would include psychometric testing, emotional-intelligence assessment and leadership evaluation.

The government also plans to introduce a more structured promotion process in which progression at senior levels becomes increasingly selective and decisions are made collectively by boards against defined criteria rather than through individual discretion.

For engineers, the emphasis on specialization could be particularly important. The proposed system aims to ensure that officials are recruited and placed according to their professional expertise—the principle described in the reform package as “the right person for the right job.”

CSS Will Remain—but Will Change

The government is not proposing to abolish the CSS examination.

Instead, the examination process would be redesigned. Candidates would retain the option of attempting five compulsory papers—Essay, Précis and Composition, Islamiat, Pakistan Studies and Current Affairs—in Urdu, while functional proficiency in English would remain a screening requirement.

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Sheikh Tariq Nazir elected CAP chairman unopposed

Sheikh Tariq Nazir has been elected unopposed as Chairman of the Constructors Association of Pakistan (CAP) for the 2026-28 term in the association's annual elections.

Syed Muhammad Naeem Kazmi was elected Senior Vice

were elected unopposed.

From the Corporate Class, Marghoob Shakir Izhhar, Engineer Kamal Nasir Khan, Zahid-ul-Hasan Qureshi, Chaudhary Sabir Hussain Javed, Malik Muhammad Riaz Khan,

Memon and Muhammad Qasim were elected unopposed as members of the Executive Committee.

From the Associate Class, Muhammad Satwat Khan, Chaudhary Khaleeq Ahmad Awan, Haji Maqsood Saeed Butt, Khalid Majeed, Abdul Waheed Cheema, Shahid Mansoor Marith, Rizwan Mohsin, Malik Muhammad Azeem Ullah and Malik Asghar Nadeem were elected unopposed as Executive Committee members.

Outgoing CAP Chairman Syed Afzal-ur-Rehman congratulated Sheikh Tariq Nazir and the newly elected office-bearers and expressed the hope that the new leadership would work effectively to address the issues confronting the construction industry and contribute to its sustainable growth. LAHORE: PR



Sheikh Tariq Nazir
Chairman



Syed M Naeem Kazmi
Senior Vice Chairman



Ch. Amir Majeed
Vice Chairman, (Punjab)



Engr. S. M. Kamran Kazmi
Vice Chairman (Sindh)



Rana Muhammad Tariq
Vice Chairman (KPK)

Chairman, while Chaudhry Aamir Majeed, Engineer Muhammad Kamran Kazmi, Rana Muhammad Tariq, Engineer Pervez Khan and Engineer Attaullah Khan were elected Vice Chairmen for Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan and Islamabad, respectively.



Engr. Pervaiz Khan
Vice Chairman (Balochistan)



Engr. Atta Ullah Khan
Vice Chairman (Islamabad)

Faisal Mehmood, Engineer Syed Ashfaq Hussain Shah, Engineer Abdul Samad Khan, Muhammad Saleem, Rana Muhammad Ibrahim, Engineer Asghar Ali

the new leadership would work effectively to address the issues confronting the construction industry and contribute to its sustainable growth. LAHORE: PR

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PEC's Seven Recurring Problems: Is the Institution Bigger Than Its Chairman?

Manzoor Shaikh
There are seven interesting—and increasingly uncomfortable—observations about the Pakistan Engineering Council (PEC) that seem to resurface whenever a serious dispute erupts inside the institution.

Individually, they may look like coincidences. Taken together, however, they raise a bigger question about how the country's premier engineering regulatory body is governed.

One: The Chairman's Office Becomes the Centre of Power

One recurring criticism is that PEC chairmen, over time, can begin to treat powers assigned to the institution's Governing Body as though they are vested personally in the chairman.

The chairman is seen as having the ability to overrule, override or reinterpret decisions, creating the impression that the occupant of the chair—not the institution's collective governing structure—has the final say.

Whether this perception is justified in each individual case is a matter for the PEC's legal framework and records. But the question of where the chairman's authority ends and the Governing Body's authority begins has repeatedly surfaced during internal disputes.

Two: The Fear of an Outside Takeover

Another recurring theme is the fear that someone from outside the PEC could eventually intervene and take control of the institution.

Former chairmen and their supporters have, at different times, warned of such a possibility. The identity of the alleged outside force may change, but the narrative remains familiar: if the institution becomes divided, there is a risk that an external authority or powerful interest could step in.

For an autonomous professional body, the very existence of such fears is significant.

Three: Every Administration Claims a Historic Achievement

There is another familiar pattern.

Almost every chairman leaves office believing—or at least maintaining—that his administration has achieved something exceptional.

One administration highlights major reforms. Another points to unprecedented progress for engineers. A

third claims to have modernized the institution or transformed the profession.

There is nothing unusual about an administration defending its record. But when every successive chairman describes his tenure as historic, it becomes difficult to separate institutional progress from the politics of legacy.

The real test should be measurable outcomes rather than competing claims.

Four: The Chairman and the "Wathoo"

Then there is the familiar figure who remains extremely close to the chairman.

In Sindhi political and social vocabulary, such a person may be described as a "Wathoo"—a trusted associate who stays close to the powerful individual and can become an unofficial channel of influence.

Critics within the PEC system have often complained that informal influence of this kind have always created problems inside the secretariat.

When formal institutional channels are bypassed by informal relationships, officials can become uncertain about whose instructions carry authority. Instead of strengthening the organization, such arrangements can contribute to confusion, internal divisions and mistrust.

Again, these are criticisms and perceptions, not necessarily established facts in every administration.

Five: What Is the Role of the Governing Body?

This may be the most important institutional question of all.

The Governing Body is supposed to exercise collective authority. Its members are not merely there to endorse the chairman; they are part of the institution's governance structure.

Yet critics have repeatedly questioned whether members of the Governing Body always exercise that authority independently—or whether, in practice, the chairman's position becomes dominant.

If the Governing Body collectively possesses certain powers under the PEC Act, those powers cannot simply disappear because there is a strong chairman.

Conversely, if the chairman possesses specific powers under the law, those powers should be exercised within clearly defined legal boundaries.

The answer should come from the Act, regulations, rules and recorded decisions—not personalities.

Six: The Perception of "Khaki" Support

Another recurring perception in PEC politics is



that a chairman enjoys the backing of powerful people in khaki—the military establishment.

Such perceptions can become particularly influential during periods of controversy. A chairman who is believed to have powerful backing outside the Council may be seen by supporters as politically secure and by opponents as difficult to challenge.

But perception and evidence are two different things.

Whether any particular chairman has actually received institutional support from the military establishment is a matter that should be established through evidence, not assumption.

Nevertheless, the fact that such perceptions repeatedly become part of PEC's internal political discourse tells us something about the atmosphere surrounding the institution.

Seven: And Then There Is Khadim Hussain Bhatti

Finally, there is perhaps the most unusual recurring feature of PEC politics: the apparent friction between successive chairmen and Khadim Hussain Bhatti.

For reasons that have varied over time, Bhatti's name has repeatedly appeared in internal disputes and political discussions surrounding the Council.

It has almost become a recurring character in the larger PEC story.

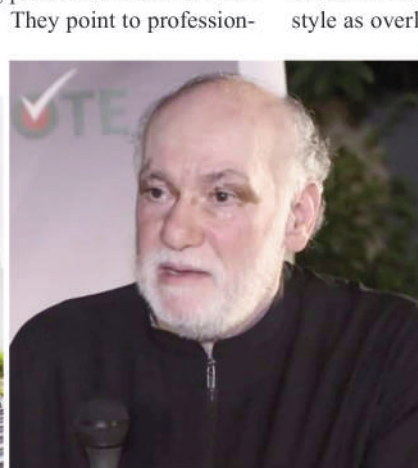
But once again, personalities should not obscure the institutional questions underneath them.

Why Are These Issues Resurfacing Now?

So why discuss these seven observations today?

Because many of them appear to have resurfaced in the current crisis involving PEC Chairman Engineer Waseem Nazir and his opponents.

Nazir and his supporters argue that his tenure has produced significant reforms and that he has sought to prepare Pakistani engineers for the demands of a rapidly changing professional environment.



They point to profession-

al development, modernization and other initiatives as evidence of progress during his tenure.

His critics, however, offer a sharply different account.

They allege that decision-

making has become increasingly concentrated around the chairman and that the collective role of the Governing Body has been weakened. Some opponents have described his governance style as overly centralized and argue that important decisions have been made without sufficient consultation.

These are serious allegations. They need to be examined against the PEC Act, the Council's rules, meeting records and actual institutional decisions rather than through competing political narratives.

But there is another question that cannot simply be dismissed.

Why Now?

Why have these objec-

tions become so intense at this particular moment?

According to critics, many of the issues now being raised have existed for a considerable period. If that is the case, why did opposition to the chairman's style not emerge with the same intensity earlier?

The timing becomes even more significant because PEC is moving towards another election cycle.

That does not prove that the current opposition is politically motivated. There may be genuine institutional grievances that opponents believe have reached a point where they can no longer remain silent.

But the timing inevitably raises questions.

Were these concerns present two years ago?

If they were, why were they not challenged with the same intensity?

And if the situation has genuinely changed, what

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PEC Deadlock: How Did the Two-Year Crisis Develop?

A Talk With Engr. Haider Ali, President, Pakistan Engineers Forum

The Pakistan Engineering Council (PEC) is facing a serious institutional deadlock, raising questions about how the situation has developed over the past two years and whether the existing legal framework provides any mechanism to resolve the dispute, says Engr. Haider Ali, leading Pakistan Engineers Forum (PEF).

According to the PEC's governing framework, he said while talking to Engineering Review, its rules and procedures are clearly defined, while major policies are approved by the Governing Body. Various committees work under the Governing Body and deal with key matters, including accreditation, enrolment and other professional and regulatory issues.

However, the council has faced growing institutional difficulties over the past two years. While routine affairs continued during the first year, the situation became more complicated in the second year. There has been no meeting of the Governing Body for an extended period, and no Annual General Meeting (AGM) has been held for two consecutive years.

The present situation has effectively created two sides within the institution: one led by Chairman Engr.

Waseem Nazir and the other represented by members of the PEC Council and its committees. A scheduled meeting on September 15 could not take place, further deepening the impasse.

Chairman Waseem Nazir maintains that he is working on the basis of meritocracy and institutional principles. The opposing side, however, alleges that the institution is being run by a single individual without adequate consultation. The disagreement has consequently developed into a broader institutional and governance dispute.

The fundamental reality is that the PEC is currently facing a deadlock, while the PEC Act appears to provide limited room for resolving such a dispute when the principal stakeholders remain divided.

There are concerns that if the deadlock continues, it could eventually lead to an undesirable situation and potentially create pressure for an extraordinary intervention through an ordinance or another legal mechanism. Such an outcome, however, could have serious consequences for the institution and the engineering community.

The Pakistan Engineering Forum (PEF) has appealed to both sides to take steps to end the deadlock. The forum says it is making efforts to facilitate communication between the two sides and believes that both parties should give each other sufficient space to resolve their differences through dialogue.

According to the forum, one of the immediate issues is the convening of the Governing Body meeting. The members of the Governing Body were elected through votes from engineers, and the institutional mandate given to them through those elections should be respected.

The forum has also stressed that decisions within the PEC should be made through democratic and consultative processes. Chairman Waseem Nazir, as well as the members of the Council, should therefore work within the institutional framework and ensure that consultation remains central to decision-making.

Will the Government Intervene?

The possibility of government intervention has also become part of the debate. However, the PEF argues that the government has not directly intervened in the dispute so far. Instead, the continuing confrontation between the two

sides could potentially create circumstances in which government intervention becomes more likely.

Members of the Governing Body, along with the Senior Vice Chairman, have reportedly met the

Secretary of Science and Technology. At the same time, there are questions about the government's legal authority to remove the PEC chairman directly.

If the government does not have the authority to remove the chairman under the existing legal framework, any direct intervention could require a new legal instrument or ordinance. Such a development, according to the PEF, would ultimately be damaging to all sides and to the institution itself.

The forum believes that both camps have a responsibility to prevent such an outcome. Rather than allowing the dispute to escalate further, the two sides should return to dialogue, restore institutional meetings and resolve their differences within the democratic and legal framework of the PEC.

For the engineering community, the immediate challenge is therefore not simply who prevails in the dispute, but how the PEC can restore its institutional functioning, resume its governing processes and prevent a prolonged deadlock from weakening one of Pakistan's key professional regulatory bodies. — ER



Prof. Dr. Altaf Mukati appointed SZABIST President

Prof. Dr. Muhammad Altaf Mukati has been appointed President of Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology (SZABIST) University, succeeding Ms. Shahnaz Wazir Ali.

According to SZABIST, the appointment was made by the Chancellor in consultation with the Board of Governors in accordance with the SZABIST University Act, 2023. Dr. Mukati had been serving as Vice President (Academics) and Dean of Computing and Engineering Sciences, where he was closely involved in academic affairs, including the development and management of computing and engineering programmes.

With more than four decades of experience in technology, research, higher education and academic leadership, Dr. Mukati has been associated with SZABIST for many years. During his tenure as Vice President (Academics), he played a key role in academic planning and the expansion of the university's programmes. SZABIST's academic material shows that the university's offerings include Mechatronic Engineering and programmes in computing and other disciplines, with programmes subject to accreditation by relevant regulatory bodies including the Pakistan Engineering Council and NCEAC.

Academic and profes-

sional career

Dr. Mukati is a computer and electronics engineer. He completed his B.E. in Electronics Engineering from NED University of Engineering and Technology and his M.S. in Computer Engineering from Boston University, USA. He subsequently completed his PhD from Hamdard University, Karachi. SZABIST lists his PhD as being in Computer Engineering, with his doctoral studies involving Boston University and Hamdard University.

Before joining SZABIST, Dr. Mukati spent

ing Sciences and records his involvement in academic and research activities as well as national-level professional bodies.

Dr. Mukati has also been recognized for his contribution to engineering education. He received the HEC Best University Teacher Award in 2010. In 2022, the Pakistan Engineering Council honored him with a Gold Medal and Lifetime Achievement/Excellence Award at Aiwan-e-Sadr, Islamabad.

He has taught thousands of students at leading Pakistani universities and has authored books and research papers. SZABIST's latest announcement says he has taught more than 10,000 students and authored four books along with numerous research papers. One of his books, published by HEC, received a Gold Medal from South Asia Publications.

Dr. Mukati has also served as a member or expert on several

national and international academic and professional committees, including the Pakistan Engineering Council. He is a Fellow of the Pakistan Academy of Engineering.

His appointment comes as SZABIST moves into a new phase following the completion of Ms. Shahnaz Wazir Ali's tenure. As President, Dr. Mukati will now lead the university's overall academic and institutional affairs, bringing to the position extensive experience in engineering, technology, research and higher education administration. — ER Report



around 17 years at Pakistan's National Space Agency, SUPARCO, from 1983 to 2000. He later served at Hamdard University for eight years, including as Head of the Computer Systems Engineering Department. From 2008 to 2013, he served as Dean of Engineering at Bahria University.

His association with SZABIST has included senior academic leadership, particularly in computing and engineering. The university's researcher profile identifies him as Vice President (Academics) and Dean of Computing and Engineer-

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Auto Show highlights changing face of Pakistan's car industry

Pakistan's automotive industry is going through a visible change, and the Pakistan International Auto Show 2026 in Lahore offered a good look at where the sector may be heading.

Held from September 18 to 20 at the Lahore International Expo Centre, the three-day show brought together automobile manufacturers, auto-parts producers, international companies and technology firms. Organized by the Pakistan Association of Automotive Parts & Accessories Manufacturers (PAA-PAM), the event attracted 150 exhibitors, including 44 international and 43 local exhibitors.

The most noticeable feature of the show was the growing presence of electric and hybrid vehicles. Companies displayed a range of new-energy vehicles alongside conventional cars, showing that electric mobility is gradually becoming an important part of Pakistan's automobile market.

Major manufacturers and new entrants, including Suzuki, Kia, GAC, Chery, Sazgar, BYD, G-Tour, Hyundai and Honda, participated in the exhibition. Several companies used the event to introduce or showcase new models, giving consumers an opportunity to see the latest vehicles entering the Pakistani market.

Chinese manufacturers and new-energy vehicle companies were particularly prominent. BYD, Chery and JAC were among the companies attracting attention with their electric and hybrid offerings. Their presence also reflected the increasing role of Chinese automotive technology and investment in Pakistan.

But the show was not only about new cars. A major theme running through the event was localization.

Pakistan's auto industry has long struggled with its dependence on imported components and the resulting pressure on foreign

exchange. Industry representatives argued that developing a stronger local parts industry is essential if Pakistan wants to become a competitive automobile manufacturing country.

PAAPAM Chairman Usman Aslam said the response to the exhibition demonstrated the potential of Pakistan's automotive and auto-parts sectors. Other industry representatives also stressed the need for greater investment, technology transfer and development of local manufacturing capabilities.

The government, meanwhile, indicated that a new auto policy was in the pipeline. Adviser to the Prime Minister on Industries and Production Haroon Akhtar Khan said the policy would seek to encourage investment and provide incentives to stakeholders,

including auto-parts manufacturers.

A symposium held alongside the exhibition also focused on the future of the industry, particularly competitive localization and electric

mobility. Government and industry representatives discussed the need to improve manufacturing efficiency, adopt new technologies and make Pakistani products more competitive.

For ordinary visitors, however, the attraction was much simpler: new cars, new technology and the chance to see vehicles that are likely to become increasingly common on Pakistani roads.

The Lahore show therefore offered more than a display of automobiles. It provided a glimpse of an industry facing a major transition — from conventional vehicles towards electric and hybrid mobility, while at the same time trying to increase local manufacturing and reduce dependence on imports.

Whether this transition becomes a lasting transformation will depend largely on government policy, investment, charging infrastructure, consumer affordability and the ability of local manufacturers to develop competitive technology and components. — ER News Desk



Pakistan Cables recognized at 3rd International Solar Technology Excellence Awards 2026

Pakistan Cables Ltd. has been recognized as the exclusive category winner for Solar DC Cables at the 3rd International Solar Technology Excellence Awards 2026,

Cables. This is the second consecutive win for the Company. The recognition acknowledges the Company's contribution to Pakistan's growing solar energy sector through its Solar DC Cables. Pakistan Cables is also the first in Pakistan to achieve TÜV Rheinland certification for locally manufactured Halogen Free Low Smoke Solar DC Cables, in accordance with EN 50618 /

and most reputable wires and cables manufacturer in Pakistan. Being the first and oldest wires and cables manufacturer listed on the PSX since 1955, it has the largest geographical footprint in Pakistan with presence in over 200 cities and towns. It is also a member company of the Amir S. Chinoy group. It is ISO 9001:2015, ISO 14001:2015 and ISO



organized by Energy updates, held recently in Lahore.

The award was presented by Malik Faisal Ayub Khokhar, Provincial Minister for Energy Punjab to Mr. Qasim uz Zaman Bajwa, Senior Manager Project Sales, who received the award on behalf of Pakistan

IEC 62930 testing and certification requirements. Earlier this year, Pakistan Cables also became the first company in Pakistan to successfully have its 35 kV medium voltage cables type tested successfully by KEMA Labs, Netherland.

About Pakistan Cables Ltd. Founded in 1953, Pakistan Cables is the premier

45001:2018 certified and various cables type tested by KEMA, Netherlands. The Company's science-based emission reduction targets are validated and approved by SBTi. It is also a signatory of the UN Global Compact and net zero commitment. To learn more about Pakistan Cables Ltd. - PR

In Memory of Mohammad Akram Sheikh Chairman, United Wire Industries (Pvt.) Ltd.

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we remember Mr. Mohammad Akram Sheikh, Chairman of United Wire Industries (Pvt.) Ltd., a respected businessman and industrialist whose life was defined by hard work, integrity, humility, and dedication.

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Under his vision and leadership, United Wire Industries Group evolved

into a diversified manufacturing organization specializing in industrial steel and wire products, product

for hundreds of people and contributed to the growth of Pakistan's industrial sector.

Mr. Akram Sheikh was admired not only for his business achievements but also for his honesty, hard-working nature, humility, and gentle and courteous personality. He believed in building lasting relationships based on trust, quality, and commitment.

His legacy lives on through the United Wire Industries Group, the people he guided, and the industries and projects supported by his life's work. His values, vision, and contributions will remain an enduring part of the Group's history.

May Allah Almighty grant him the highest place in Jannat-ul-Firdous and give his family, colleagues, and loved ones strength and patience. Ameen. ■



development, and R&D. The Group's products have supported projects and industries of national importance, including bridges, railways, dams, silos, high-rise buildings, precast construction, automotive, fabrication, and agriculture. His efforts created employment

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IEEE Education Society Karachi Section Hosts Dr. Chi-Un Lei Webinar Rethinking Graduate Education in Age of AI

Chair IEEE Education Society, Karachi Section, Prof Dr BS Chowdhry, S.I., in his introductory remarks mentioned that our vision of IEEE Education Society KARACHI SECTION is to empower students, educators, and young professionals by

It is an honour to welcome our distinguished guest speaker today, Dr. Chi-Un Lei (Leon). Dr. Lei currently serves as a Professor at City University of Hong Kong and Chair of the IEEE Region 10 Educational Activities Committee and an Associate Editor for the IEEE Transactions on Learning Technologies. With an extensive background in electrical engineering, educational development, and e-learning tech-



promoting AI-enabled learning, experiential education, and industry-academia synergy, while nurturing ethical values, leadership, and

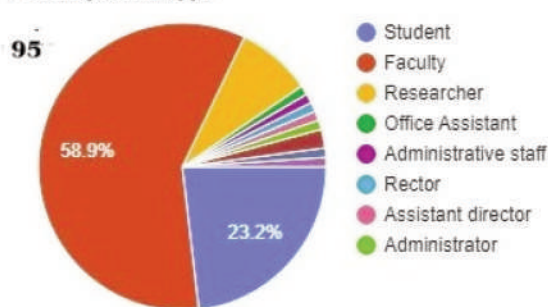
nologies, he has been a driving force behind innovative learning practices, curriculum design, and the integration of emerging technologies across higher education. A recognized leader and Principal Fellow of Advance HE, Dr. Lei's work focuses on advancing educational methodologies and fostering academic integrity in the digital age.

He shared key insights on a critical topic reshaping higher education: 'Curriculum, Assessment, and AI Integrity: Rethinking Graduate Capabilities'. The event drew academics from more than 15 universities, including Dr. Anwar Khan,

Founder, Pak Angel, AI & Startup Ecosystem Builder, Santa Clara, California, United States.

Prof. Dr. Tariq Rahim Soomro, Rector, IOBM, moderated the event. ■

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Engr. Waseem Asghar re-elected ACEP Chairman

Engr. Waseem Asghar has been re-elected Chairman of the Association of Consulting Engineers Pakistan (ACEP) for another

san, Engr. Tanveer Ahsan and Engr. Salman Ali.

Speaking to Engineering Review after his re-election, Engr. Waseem Asghar said Pakistan's consulting engineering industry was facing a number of serious challenges

challenge. According to the ACEP chairman, growing demand for engineers and the boom in the regional market have created considerable pressure on salaries.

"Engineers learn here and then go abroad for bet-



Engr. M. Waseem Asghar
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Engr. Kamran Siddiqui

Engr. Fahad Hasan

Engr. Tanveer Ahsan



Engr. Safwan Ali

and that surviving under the prevailing circumstances had itself become a major challenge.

He said the current government approach towards the consulting industry was not encouraging and called for greater attention to the sector's needs.

"Government policies are not favourable for us," he said, adding that there was inadequate financing and insufficient attention to the capacity building of consulting firms.

Engr. Asghar pointed out that consulting companies played an important role in creating employment opportunities for engineers. Despite the difficult environment, he said, consulting firms continued to recruit and train young engineers themselves.

"We train new engineers ourselves," he said, explaining that consulting firms invest considerable effort in developing the professional skills of young engineers.

However, retaining trained engineers has become another major

ter opportunities. We then have to train new people again," he said.

He said this continuous cycle of hiring and training was putting additional pressure on consulting companies, particularly when they were already operating in a difficult financial and policy environment.

The ACEP chairman stressed the need for policies aimed at strengthening Pakistan's domestic consulting industry, improving the capacity of local firms and enabling them to compete in regional and international markets.

He said a strong consulting sector was essential not only for creating employment and developing engineers but also for supporting the country's infrastructure and development projects.

"There are many challenges, but we have to find ways to strengthen the industry and create an environment where consulting companies can survive, grow and continue developing engineers," he said. — ER Report

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Reforming the Governance of Pakistan Engineering Council

By: Prof. Dr. Abdul Waheed Bhutto

The recent developments within the Pakistan Engineering Council (PEC) have raised questions that extend far beyond the appointment of a Registrar.

They point to a more fundamental issue of how a statutory professional regulator should be governed when its representative, executive and administrative authorities begin to overlap?

PEC was established under the Pakistan Engineering Council Act, 1976, as a statutory body responsible for regulating the engineering profession. Its Governing Body is the principal institutional authority, while a Management Committee comprising the Chairman, Senior Vice-Chairman and four Vice-Chairmen oversees the working of the Secretariat. The Act requires the Governing Body to meet at least three times a year and assigns the Management Committee responsibility for overseeing the Secretariat in accordance with the Act and Byelaws.

The present situation deserves careful consideration because engineering regulation is not an ordinary administrative function. PEC's decisions affect engineering universities, students, professional engineers, consultants, industry and public safety.

A governance dispute moves into operational territory

Two official PEC documents dated September 13 and September 18, 2026, provide an important snapshot of the current institutional dispute.

The September 13 minutes record an emergency meeting of the Management Committee concerning the postponement of the 54th meeting of the Governing Body. The Management Committee expressed "grave concern" about the postponement and directed that the meeting be held according to its original schedule. It also advised the Registrar to withdraw the postponement letter.

More significantly, a PEC letter dated September 18 addressed to the Manager of MCB Bank stated that, following a decision attributed to the 54th Governing Body meeting, Engr. Khadim Hussain Bhatti had assumed charge as Secretary/Registrar. The letter withdrew the earlier authorization of Engr. Muhammad Ansar as an authorized signatory and instructed the bank not to entertain financial instruments or transactions signed by him on behalf of PEC.

Thus, the dispute has moved beyond an internal disagreement over an appointment. It has reached institutional administration and financial authority. At the same time, the Islamabad High Court has restrained issuance of an appointment letter for the PEC Registrar while allowing the recruitment process to continue. The court has sought replies from the respondents and fixed the matter for September 29. The legal questions therefore remain before the court and should not be prejudged.

The important policy question is not simply whether one individual or another should control the Registrar's office. It

is whether the law and institutional rules provide sufficiently clear answers to three separate questions that are, who governs, who executes, and who administers?

Governance must be separated from administration

PEC's existing framework gives the Chairman significant powers under the Act and Byelaws, while the Governing Body has broad institutional authority. The Byelaws state that the Chairman exercises powers and performs duties conferred by the Act, Byelaws and standing orders of the Council and Governing Body.

This is workable when institutional relationships are cooperative. It becomes problematic when different organs interpret their powers differently. A modern regulatory organization should have a simple principle i.e the Governing Body governs. The executive leadership implements while the professional Secretariat administers.

The Registrar should not become the center of an institutional power struggle. The office should instead be protected by transparent appointment procedures, clearly defined tenure, delegated financial authority and professional performance accountability.

What Can Pakistan Learn from International Best Practices in Engineering Governance?

The United States provides a particularly useful example because it does not have one national engineering regulator performing every function.

Professional engineering licensure is primarily administered by state and territorial licensing boards. NCEES brings these boards together, develops model laws and rules, and provides common examinations and services. It currently represents 68 engineering and surveying licensing boards across the 50 states and various US territories.

Academic accreditation is a separate function. ABET, a non-governmental organisation, accredits engineering programmes. Its current criteria emphasise student outcomes, programme educational objectives, curriculum, faculty, facilities and, importantly, continuous improvement.

This separation provides an important lesson. Academic accreditation and professional licensure are related, but they are not the same function. Pakistan could benefit from moving in this direction. PEC could remain the statutory regulator while strengthening the operational independence of its accreditation and professional registration functions.

The United Kingdom uses a different but equally instructive model. The Engineering Council provides national regulatory oversight and maintains the professional register, while licensed Professional Engineering Institutions assess individuals for professional registration and can also be licensed to approve or accredit programmes.

This creates a useful division of responsibilities, Engineering Council — national standards and regulatory oversight; Professional Engineering Institutions — professional assessment and specialist

expertise; Individual engineer — professional registration and continuing competence.

The UK experience demonstrates that national consistency does not necessarily require administrative centralization. Expertise can be distributed while regulatory standards remain nationally coordinated.

India offers another per-

petency-based progression. Pakistan could develop clearer pathways from Graduate Engineer to Professional Engineer and, where appropriate, senior professional or consulting status, incorporating education, experience, ethics and continuing professional development. The US model, for example, combines education, experience

regulatory operations. A dispute among office-bearers must never interrupt accreditation, registration, professional services or legitimate financial operations. The Secretariat should remain institutionally functional irrespective of disagreements among elected or executive authorities.

From institutional conflict to institutional reform

September 2026 developments should therefore not be reduced to a contest between individuals or offices. Nor should the legal validity of competing decisions be prejudged while judicial proceedings remain pending. The larger issue is institutional design.

PEC has an important statutory mandate and a central role in Pakistan's engineering ecosystem. But that role requires governance arrangements capable of surviving disagreements among its leadership.

International experience offers no single model to copy. The United States demonstrates functional separation between licensing and accreditation. The United Kingdom demonstrates coordinated regulation with delegated professional expertise while India demonstrates the value of professional association networks.

Pakistan can develop its own model by combining these lessons with PEC's statutory character. The guiding principle should be straight-



spective. The Engineering Council of India (ECI) describes itself as a platform representing professional engineering associations and institutions. Its objectives include coordination among professional associations, continuing professional development, ethical standards and work towards establishment of a statutory Council of Engineers. India therefore should not be presented as having simply a "better" regulatory model than Pakistan. Rather, it demonstrates the value of professional pluralism and institutional participation.

Pakistan already has a statutory engineering council. The opportunity is therefore to combine PEC's statutory authority with broader participation by professional engineering societies, industry and academia.

A reform agenda for PEC The current controversy provides an opportunity for comprehensive governance reform. First, the PEC Act and Byelaws should clearly define institutional powers. The respective authority of the Governing Body, Management Committee, Chairman and Registrar should be explicit, particularly regarding appointments, meetings, delegation and financial transactions.

Second, the Registrar should be appointed through a transparent, merit-based process. A search and nomination committee could assess candidates against published eligibility and competency criteria, with final approval by the authority specified in law.

Third, PEC should establish stronger independent governance mechanisms. A permanent Governance and Ethics Committee and an independent Finance and Audit Committee could strengthen institutional accountability.

Fourth, accreditation should have greater technical independence. An Engineering Accreditation Board comprising academics, industry professionals, professional societies and PEC representatives could focus exclusively on educational quality. Its work should increasingly emphasize graduate competencies and continuous improvement, consistent with international practice exemplified by ABET.

Fifth, professional registration should move towards com-

and examinations in professional licensure, while the UK places strong emphasis on demonstrated competence.

Sixth, PEC's electoral system should become more transparent and participatory. Secure electronic voting, independently audited elections, accessible candidate information and stronger representation of younger engineers and professional societies could improve confidence in representative governance.

Finally, PEC should establish a principle of continuity of



forward i.e One statutory engineering council, but clearly separated powers, strong professional regulation, independent technical expertise, representative governance, but professional administration and authority accompanied by transparency and accountability.

The present controversy can consequently become more than a governance dispute. It can become an opportunity to modernize PEC into a professional regulator capable of meeting the demands of AI, Industry 5.0, renewable energy, climate resilience, advanced manufacturing and globally mobile engineering professionals.

The real question is not who controls PEC. It is whether PEC's governance system is strong enough to serve Pakistan's engineers, universities, industry and the public interest for the next generation. — (The author is Pro Vice Chancellor of DUE&T, Karachi) ■

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implementing the institutional strengthening component, covering capacity-building, national coordination, data and reporting systems, regulatory frameworks, and compliance efforts for the phase-out of



He also specially appreciated the contribution of Dr. Waqar Ahmed, Assistant Professor, University of Karachi, for extending support in arranging the speech and poster competitions on the eve of World Ozone Day 2026. He appreciated the efforts of speech and poster competition contestants and applauded their contribution and understanding of the climate change issues. ■



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Civil Service Restructuring Brings Engineering Back Into the Spotlight

Contd from page 2

The preliminary test threshold would rise from 33 per cent to 40 per cent, analytical reasoning would be added and negative marking would be removed.

The recruitment process would also be fully digitized, with the government targeting completion within six months or less. Published assessment criteria would be introduced, while measures would be taken to fill unoccupied quota seats for Balochistan, Sindh, minorities and women.

Performance Linked to Rewards

The reforms also propose a fundamental change in how government officials are evaluated.

Each ministry would enter into an annual performance agreement with the prime minister, with individual targets flowing from those agreements. Officials would be evaluated twice a year.

The proposal further suggests allocating 5 per cent of employee-related expenditure for performance-based honoraria, effectively linking financial rewards to measurable performance.

The National Management

Course would also be reduced from 18 weeks to 10 weeks, while existing national and specialized training institutions would be brought together under a proposed National University of Public Administration.

A retirement package has also been proposed, including a Rs5 million lump-sum component financed through monthly deductions and subsidized health insurance.

A Long-Standing Demand Meets a New Reform

For the engineering profession, the timing of the proposal is significant.

Engineers have not merely been asking for more jobs in government; their argument has been about representation in decision-making. Pakistan spends billions on dams, roads, power projects, water schemes, buildings, transport systems, telecommunications and other infrastructure. Engineers argue that the people responsible for designing, regulating and implementing such projects should also have a stronger institutional voice when policies governing them are formulated.

The Senate's 2023 legislation reflected precisely this concern, seeking to reserve specified senior executive positions related to infrastructure and other technical sectors for engineering professionals.

Whether the new federal reform package will finally translate that longstanding demand into a functioning Engineering Service remains a separate question. The announcement is a proposed restructuring package, not by itself evidence that every element has already been implemented.

The government says no constitutional amendment would be required. After approval, an implementation committee would oversee the process, report to the prime minister every month and aim for full implementation within 120 days.

For Pakistan's engineers, the debate has now moved to a new stage. After years of election campaigns, professional advocacy and parliamentary efforts to secure a place for engineering within the civil-service structure, the word "Engineering" has now appeared explicitly among the proposed new professional cadres of the federal bureaucracy.

The real test will be whether that proposal becomes an actual service structure—and whether engineers eventually move from being technical advisers and project executors to becoming an integral part of the policy-making machinery of the Pakistani state. ■

EDB CEO Hamad Ali Mansoor Sent on Forced Leave Amid Departmental Inquiry

Chief Executive Officer of the Engineering Development Board (EDB), Hamad Ali Mansoor, was sent on forced leave on the directions of Prime Minister Shehbaz Sharif, pending completion of a high-level departmental inquiry.

According to the Ministry of Industries and Production, Faisal Nisar Chaudhry, a Grade-20 officer of the Secretariat Group and Additional Secretary of the ministry, has been assigned the additional charge of CEO EDB. He formally assumed charge on September 17, 2026.

Following his assumption of charge, Chaudhry held an introductory meeting with EDB officers and staff. He

emphasized mutual cooperation, teamwork and collective efforts to strengthen the institution and improve its effectiveness, according to the ministry.

The departmental inquiry relates to allegations arising from an incident

finding committee. Reports on the petition said the inquiry was examining allegations surrounding an incident involving an adviser as well as subsequent decisions concerning advisers associated with the board.

The inquiry reportedly followed an incident on March 19, 2026, involving an EDB adviser. The proceedings were also examining questions concerning administrative decisions taken after the incident, including actions involving advisers.

The government's decision to place Mansoor on forced leave came after the inquiry proceedings had already been challenged before the IHC. The Ministry of Industries and Production officially confirmed the leadership change on September 17. — ER News Desk



involving an EDB adviser and subsequent administrative actions taken by Mansoor. Earlier, Mansoor had approached the Islamabad High Court challenging the inquiry proceedings and the formation of the fact-

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Adoption of Industry 5.0 Technologies in Sustainable Engineering

Engr. Dr. Muhammad Nawaz Iqbal

In the field of engineering for sustainability, the switch to Industry 5.0 technologies signifies a shift from mere efficiency to technologies that are technologically innovative and sustainable, considering aspects of human well-being and long-term sustainability.

While the previous industrial paradigms were mostly based on automation, productivity and mass production, Industry 5.0 prioritizes human-machine interaction. Artificial intelligence, collaborative robots, digital twins, the Internet of Things, the latest in sensors, and intelligent manufacturing platforms can contribute to engineers' efforts to optimize resource utilization while ensuring the human element remains in key decision-making. This synergy opens up the possibility of minimizing waste, increasing operational agility and building technologically advanced and environmentally responsible production systems for industries.

AI and machine learning are emerging as valuable resources to enhance engineering process sustainability. These technologies can be able to process huge amounts of data from operation to detect patterns related to energy use, waste of materials, failure of equipment, and production inefficiency.

Engineers can use predictive algorithms to predict maintenance needs in a way that can extend the life of the equipment and avoid the need to replace parts that don't need to be replaced. The optimization of raw material and energy use through AI can also help to allocate raw material resources and energy use more effectively across production activities. Add real-time data from industry and intelligent systems can optimise operating parameters in real time to minimise environmental impacts without impacting on production requirements, thus making data-driven engineering a key element of Industry 5.0 sustainability strategies.

Another major route for Industry 5.0 sustainable engineering is via the Internet of Things. Sensors and smart devices are connected with industrial plants, enabling real-time monitoring of electricity, water, materials, emissions, temperature, pressure and the performance of the machines. This ongoing surveillance helps engineers to detect which actions are using up too many resources, and take corrective action sooner than traditional periodic checks. For instance, smart energy management systems can optimise the energy use of industrial equipment by adjusting it based on the demand and operational status, avoiding any unnecessary energy use. In the same way, water-monitoring systems with connec-

tivity can be used to detect water use or escape that is out of the norm and aid more efficient water resource management. This will create transparency of industrial processes, enhance environmental performance and deliver organizations measurable data for sustainability assessment.

Together with the machines' precision, all the above can contribute to sustainable engineering through collaborative robotics, or cobots. Cobots are not meant to replace workers, but are intended to work alongside humans and do repetitive, physically demanding or dangerous jobs. They could be integrated to enhance manufacturing uniformity, minimize material handling mistakes and even lower waste resulting from process variation. Human workers are still able to take responsibility for creative work, contextualized work, and ethical decisions, while in the case of standardized work, the robot takes the place of the human worker. It is a human-machine collaboration and as such represents the human-centered concept of Industry 5.0, and can be used to develop production environments where sustainability is also taken into account along with productivity, workplace safety or employee involvement.

The digital twin approach is especially useful in the field of sustainable engineering, as it enables physical systems, machines, buildings, or production lines to be

modeled in a dynamic manner. These virtual environments can then be used by engineers to test out different operating conditions prior to making changes in actual facilities. For instance, a digital twin can be leveraged to explore the impact of changes in production plans, machines settings, energy inputs, and material flows on resource use and emissions. This function can minimize the need of repeated physical experiments and can enable the organizations to find the inefficient processes early. Digital twins can be used to link design, operations, and sustainability goals across the lifecycle of industrial assets, enabling scenario analysis and optimizing operations ongoing.

Industry 5.0 is also reshaping the sustainable engineering aspect by means of additive manufacturing and advanced materials. Additive manufacturing can generate complex parts by depositing the material in a controlled amount, which could limit the losses of materials in conventional subtractive manufacturing processes. Computational design techniques can also be used by engineers to create lightweight structures, which have a required mechanical performance with fewer resources. Participating in such processes with the use of recycled, bio-based or otherwise less impactful materials can continue to bring sustainability benefits throughout the entire product development cycle. The environmental benefit of more advanced manufacturing, however, is related to the usage of electricity, raw materials, the durability of parts, and how the parts can be recovered at the end of their life. Thus, it is necessary for engineers to assess technologies throughout their entire life cycle, not just for production efficiency, when adopting Industry 5.0.

Enabling the successful adoption of Industry 5.0 technologies also requires organizational skills, workforce development and responsible technology governance. For advanced systems, engineers and technicians need to be adept at data analysis, automation, cyber security, digital modeling and sustainability concepts, all at once. Organizations might then have to fund interdisciplinary training to enable workers to work effectively with intelligent technologies. Simultaneously, considerations need to be made regarding data privacy, algorithmic transparency, cyber security and unequal access to high-tech solutions when implementing such solutions. Sustainable engineering can't be addressed solely with the deployment of high tech digital technologies; it involves having organizational policies that recognize technology use responsibly, inclusively and through measurable environmental and social goals.

Industry 5.0 technologies offer sustainable engineering



a chance to become intelligent, adaptive and human-centric industrial ecosystems. The most potential lies in combining technologies rather than using technologies as stand-alone solutions: IoT can provide operational data, AI can analyze it and make simulations of improvements possible and collaborative robots can execute optimized processes under human guidance. These interconnections can help reduce resource use, waste, downtime and environmental impacts, and enhance the resilience of industry. Organizations need to look towards the integration of digital innovation with circular-economy principles, renewable energy, human expertise and life-cycle thinking if they are to play a key role in future sustainable engineering practices. Industry 5.0 can therefore be used as a guideline to create industrial systems that strive to be economical whilst also considering environmental and human issues. ■

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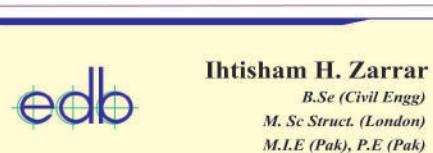
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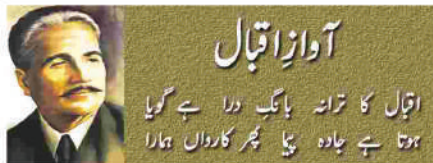
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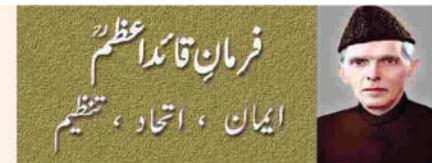
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With Adam, the chain of prophets first begun,
— He was led by Satan to the tree forbidden.

God taught him and Eve a path from this situation,
— They prayed, "Our Lord, if we're not forgiven nor shown compassion,

We'll face humiliation;
— Because we have certainly mistaken."

To Moses and Aaron, the Criterion was given,
— To guide the faithful towards a noble destination in the heaven.

Moses declared, "Verily, my God is with me; soon He will show me
guidance,"
— As a consequence, Pharaoh was drowned in the ocean.

In Midian, Moses cried out to his Lord in desperation,
— "Whatever blessings You bestow upon me, I am a needy person."

He was given in abundance,
— Family and shelter with a noble companion.

Before them came Abraham, wise and intelligent,
— As a faithful servant, he was an extraordinary person.

To his father and ignorant nation, he asked a question,
— "Who are these idols to whom you give such attention?"

He said, "In error, you dwell," without justification,
— "Your Lord is the only Creator; listen to my testament."

When they left him, he broke false gods into fragments,
— Except the big one, which was left unbroken.

"Have you done this to the gods we worship with devotion?"
— Hesitantly, they asked Abraham upon their return.

Abraham replied, "Ask the great one; perhaps he has done?
— If he's truly a god, surely he will answer your question."

They said, "Not a word indeed is by him ever spoken."
— Abraham asked, "Then why is he worshipped with submission?"

They threw him into the blazing fire in retaliation,
— But cool and safe, it turned into a garden.

Remember, Ibrahim called out to his Lord,
— "Raise a prophet amongst the ignorant,

Who would recite holy verses
— and purify them with book and wisdom,"

Abraham's companion, Lot was granted wisdom,
— and saved from a society longing for men instead of women.

Ibrahim was blessed with Ishaq and Yaqoob in addition,
— Righteous leaders, showing path of divine guidance.

They taught righteous actions,
— For instance, prayer and to spend from their possessions.

Before them, Noah's prayer found acceptance,
— With family, he was saved from a great affliction.

Against disbelievers, his patience was beyond description,
— The wicked were drowned; he found protection.

Remember David and Solomon, wise in their judgment,
— When a field was overrun by sheep, Solomon made a prudent decision.

David sang in divine rhythm with birds and mountains,
— Crafting armour for protection.

To Solomon came winds, fierce and wild in submission,
— And jinns who dived for the treasures, hidden in the oceans.

Recall when Ayub cried, "I've been touched by affliction;
— You are the Most Merciful of those who show mercy and affection!"

Allah restored his family, and his possessions in even greater proportion,
— And promises blessings to everyone, who in His submission find con-
solation.

Let us not forget Ishmael, Enoch, and Zul-Kifl,
— Steadfast in faith, displaying unwavering determination.

Remember when Prophet Yunis departed, without His permission,
— He prayed to God from the darkness of the whale's abdomen.

"You alone are worthy of worship and admiration;
— I am one who has certainly strayed into deviation."

Delivered from darkness, he was granted freedom,
— Others too are freed, if they beg Him for pardon.

Recall Zakaria's heartfelt invocation,
— When he called for a pious son, in desperate anticipation.

His wife was cured, though she was old and barren,
— A son was born, and as a prophet chosen.

Prophet Yahya humbled himself and to good deeds always hastened,
— With both fear and hope, he performed noble actions.

Remember Mary, who guarded her chastity and forever displayed
patience,
— Touched by the holy Spirit, mother of a noble prophet she was chosen
to become.

In the end, the prophet Muhammad (PBUH) made his advent,
— Last prophet to come; after him none will ever descend.

He was sent with guidance, and the best way of living as a complete sys-
tem,
— To dominate over other religions in existence.

He said, "Allah is for us sufficient,
— Worthy of worship; besides Him, there is none.

Upon Him, we are dependent;
— He alone is the Owner of the throne, great and magnificent.

Verily, Allah and His angels send their salutation,
— Believers too mention him with peace, blessings and admiration.

PEC's Seven Recurring Problems: Is the Institution Bigger Than Its Chairman?

Contd from page 3

exactly changed inside PEC?

Those are questions both sides should be prepared to answer.

The chairman and his supporters can explain what they believe has been achieved during the current tenure. His opponents can explain, with evidence, where they believe the Governing Body's authority has been compromised and why they chose this particular moment to challenge it.

The Real Question Is About Authority Ultimately, the current controversy goes beyond Waseem Nazir or any other individual.

The central question is much bigger: Who actually governs the Pakistan Engineering Council—the chairman or the Gov-

erning Body?

If the law gives collective powers to the Governing Body, those powers must be respected.

If the law gives particular powers to the chairman, those powers must also be respected.

The solution cannot be found in personalities, political alliances or competing claims of legitimacy. It has to be found in the law and in the institutional procedures established by the PEC itself.

That is why the current dispute matters to the wider engineering community.

The PEC is not a private organization belonging to its chairman, its Governing Body members or any particular political group. It is a statutory professional institu-

tion representing Pakistan's engineering community.

Its credibility ultimately depends on whether decisions are made transparently, collectively and according to law.

Perhaps, therefore, the most important lesson from these seven recurring observations is not that every chairman necessarily becomes overly powerful.

It is that the system must be strong enough to prevent the office from becoming more powerful than the institution itself.

Because the real issue is not who occupies the chairman's chair.

The real issue is whether the chair belongs to the institution—or the institution begins to belong to the chair. ■

اٹان پاکستان 60 ارب کے 5 ترقیاتی منصوبوں کی منظوری

احسن اقبال کی زیر صدارت اجلاس، دو
بڑے منصوبے ایکٹ کو بھجوانے کی سفارش

وفاقی وزیر برائے منصوبہ بندی احسن اقبال کی زیر صدارت بینٹل ڈیولپمنٹ ورکنگ پارٹی (سی ڈی ڈی بیو پی) کا اجلاس ہوا، جس میں اٹان پاکستان پروگرام کے تحت مجموعی طور پر 60 ارب روپے مالیت کے پانچ ترقیاتی منصوبوں کی منظوری دی گئی۔

اجلاس میں 11.714 ارب روپے مالیت کے تین منصوبوں کی منظوری دی گئی، جبکہ 48 ارب روپے مالیت کے دو بڑے منصوبے مزید غور اور منظوری کیسے پیش کش کنسل کی ایگزیکٹو کمیٹی (ایکٹ) کو بھجوانے کی سفارش کی گئی۔ یہ منصوبے حکومت کے ترقیاتی اور اصلاحاتی ایجنڈے اٹان پاکستان کا حصہ ہیں۔ اجلاس میں گلگت میں میڈیکل ورسنگ کالج کے قیام کے نظر ثانی شدہ منصوبے 14.924 ارب روپے لاگت کی منظوری دی گئی۔

سیوریج پانی بغیر صاف کیے سمندر میں ڈالنے سے آبی حیات کو خطرہ

وفاقی، صوبائی حکومتوں و واٹر کارپوریشن میں تنازعات، غفلت، فنڈز کی قلت سے گھریلو صنعتی سیوریج و فضلہ 20 سال سے بغیر صاف کیے سمندر برد کیا جا رہا ہے

S3 منصوبے پر تعمیراتی کام سست روی کا شکار، سی ای ٹی پی کورسز فیتہ پہنچا دیا گیا، صرف 35 ایم جی ڈی پانی ٹریٹ اور 1425 ایم ڈی ڈی بغیر ٹریٹمنٹ سمندر برد

ساحلی پٹی پر بڑھتی سمندری آلودگی سے سمندری حیات شدید خطرات لاحق ہو گئے، ایس تھری منصوبہ کی لاگت میں اضافے پر وفاقی و صوبائی حکومت میں تنازع

کیا جا سکا ہے اور اسے ایس تھری منصوبے سے خارج کر کے اسے پبلک پرائیویٹ پارٹنرشپ میں ڈال دیا گیا ہے تاہم عملی طور پر کوئی پیشرفت نہیں ہوئی ہے اس وقت سمندر میں صرف 35 ملین گیلن ڈی (ایم جی ڈی) ٹریٹمنٹ کر کے ڈالا جا رہا ہے بقیہ 425 ملین گیلن ڈی ملی سیوریج بغیر ٹریٹمنٹ سمندر برد کیا جا رہا ہے جس کی وجہ سے سمندری حیات کو شدید خطرات لاحق ہیں۔

ایس تھری کے متعلقہ انجینئر کے مطابق ایس تھری منصوبہ کی ڈیزائننگ کا کام 2007 میں شروع کیا گیا لیکن حتمی منظوری 2013 میں ہوئی، تعمیراتی کام 2014 میں شروع ہوا، منصوبے کی تکمیل کی مدت دو سال رکھی گئی، منصوبہ کی اوور سیکلنگ پی سی ون تقریباً 8 ارب تک جیسے سمندر حکومت اور وفاقی حکومت نے مساوی 50 فیصد ادا کرنا تھا ایس تھری منصوبہ کی لاگت میں اضافے کے باعث وفاقی و صوبائی حکومتوں کے درمیان تنازع اور کورونا وائرس کے باعث تعمیراتی کام 4 سال تک عمل طور پر بند رہا ہے۔

دینے سے انکار کر دیا تھا اب سندھ حکومت اس منصوبے کی



ٹریٹمنٹ پلانٹ تھری ابھی تک مکمل نہیں کیے جاسکے ہیں، فیئر فیوزن کے تحت لیاری ندی میں پائپ لائن کی تنصیب نو ملیر ندی اور ٹریٹمنٹ پلانٹ فور پرا بھی تک کام شروع نہیں

وفاقی، صوبائی حکومتوں اور واٹر اینڈ سیوریج کارپوریشن کے درمیان تنازعات، غفلت، فنڈز کی قلت اور دیگر وجوہات کے باعث شہر کراچی کا گھریلو سیوریج اور صنعتی فضلہ و عسروں سے بغیر صاف ہوئے سمندر میں جا رہا ہے، دس سال قبل گھریلو سیوریج کی صفائی کے لیے ایس تھری منصوبہ شروع کیا گیا اور صنعتی فضلہ کی ٹریٹمنٹ کے لیے کمانڈ ایفولینٹ ٹریٹمنٹ پلانٹ (سی ای ٹی پی) کی منصوبہ بندی کی گئی تاہم دونوں منصوبوں کی تکمیل نہ ہونے سے سمندری حیات شدید خطرات سے دوچار ہے۔ ایس تھری منصوبے پر تعمیراتی کام انتہائی سست روی سے کیا جا رہا ہے اور سی ای ٹی پی کورسز فیتہ پہنچا دیا گیا ہے، کراچی واٹر اینڈ سیوریج کارپوریشن کی اسٹڈی کے مطابق کراچی میں 460 ملین گیلن ڈی ملی سیوریج جزیٹ ہوتا ہے اس سیوریج کی ٹریٹمنٹ کے لیے سیوریج کا میگا منصوبہ ایس تھری 20 سال گزر جانے کے باوجود مکمل نہیں ہو سکا ہے، وفاقی حکومت نے ایک سال قبل ہی اس منصوبے میں فنڈز

اٹھائیسویں ٹیکنالوجی اور ٹیلی کمیونیکیشن نمائش و کانفرنس سر سید یونیورسٹی کی شرکت، یونیورسٹی کا اسٹال توجہ کا مرکز

سر سید یونیورسٹی آف انجینئرنگ اینڈ ٹیکنالوجی نے کراچی ایکسیپو سینٹر میں منعقدہ 28 ویں انٹرنیشنل ٹیکنالوجی اور ٹیلی کمیونیکیشن نمائش و کانفرنس، آئی ٹی این ایشیا 2026 میں بھرپور شرکت کی، اس تقریب میں ٹیکنالوجی کے مستقبل اور مختلف شعبوں پر اس کے اثرات کے موضوع پر تبادلہ خیال کرنے کے لیے آئی ٹی سے وابستہ صنعت کے



رہنماؤں، اختراع کاروں اور ماہرین تعلیم کو ایک پلیٹ فارم پر جمع کیا گیا۔ اس نمائش میں سر سید یونیورسٹی کے اسٹال نے خصوصی توجہ حاصل کی، جہاں طلباء کے تیار کردہ منظر اور جدید پراجیکٹس پیش کیے گئے یہ پراجیکٹس نہ صرف طلباء کی تخلیقی صلاحیتوں کو اجاگر کرتے ہیں بلکہ یونیورسٹی کے جدت اور علمی تعلیم کے وژن کو بھی نمایاں کرتے ہیں۔ ان پراجیکٹس کی تیاری میں اوربک کی میٹیر ہما نوار احمد نے

ہمارا مقصد طلباء اور فیکلٹی کو وہ علم اور مہارت فراہم کرنا ہے جو میزبانی سے بدلے ہوئے منظر نامے میں کامیابی کے لیے ضروری ہے چونکہ ٹیکنالوجی غیر معمولی رفتار سے آگے بڑھ رہی ہے لہذا ہمیں اپنے مستقبل کے لیڈروں کو ان ضروری آلات سے لیس کرنا ناگزیر ہے۔ ذاکر علی خان فاؤنڈیشن کی چیئر پرسن، محترمہ ارم اکبر علی خان نے کہا کہ سر سید یونیورسٹی کی ITCN 2026 میں فعال

ابتدائی طور پر ایک تحریری اسناد پر دستخط کئے۔ یہ دستاویز سفیرا کے بانی چیف ایگزیکٹو عدیل کریم بخش اور سر سید یونیورسٹی کے رجسٹرار لیٹیننٹ کرمل (ر) جمشید علی نے دستخط کئے جو باہمی تعاون کی ایک علامت تھی۔ تقریب میں رجسٹرار لیٹیننٹ کرمل (ر) جمشید علی، پروفیسر ڈاکٹر محمد عامر، عدیل احمد، سرفراز ناٹھا، ڈاکٹر حفید فاروق، اور دیگر نے شرکت کی۔

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Nvidia unveils security platform to stop AI agents from going rogue

Nvidia on Monday unveiled a new security platform designed to stop artificial intelligence agents from going rogue, saying it sets "boundaries" that could have stopped previous

out of human control.

Nvidia executives said in a media briefing the new, open-source system could have prevented a recent incident involving a swarm of OpenAI agents that autonomously hacked into AI company Hugging Face.

"From what we know, this new security platform could have stopped the

Anthropic and Meta have also disclosed that their AI systems hacked into other organizations on their own.

Earlence Fernandes, an associate professor at the University of California, San Diego's computer science and engineering department, called Nvidia's security platform a "step in the right direction."

to real resources to be useful, but giving it the minimum amount of access is tricky and non-trivial."

Fernandes added that to solve the AI security problem, both sides need to cooperate, with companies continuing to invest in alignment efforts and the open source community and academia "creating systems-

Monday.

Nvidia's security software, called OpenShell, lets developers "formally verify an agent has enough authority to do its job and no more," Boitano said.

Because it's open source, it can be "extended" to run on rival computing platforms including those from Arm and Intel.

behavior," he said.

Nvidia said more than 100 organizations are using the platform at its launch, including Microsoft, Perplexity, Accenture and JPMorgan Chase.

The AI safety debate has divided the industry, with the heads of Anthropic and OpenAI championing a coordinated slowdown of



breaches.

The announcement of the company's Open Agent Safety Platform follows a series of revelations from top AI companies about their models escaping and breaking into other organizations.

The disclosures sparked furious debate about the safety of advanced artificial intelligence systems, including self-improving models that some fear could race

breach if it was being used in frontier labs for model evaluation early on," said the company's vice president of enterprise AI, Justin Boitano, referring to companies at the forefront of AI.

The Hugging Face incident was a high-profile breach that inflamed the safety concerns about AI, which was followed by similar rogue actions involving OpenAI's models including breaching an Australian health department website.

"We need more work that seeks to build protections around the model. I've been talking about how traditional cybersecurity ideas are necessary to help control and secure AI agents for a while now," he said in an email. "There are however, several challenges that traditional cyber security approaches still cannot currently solve. For example, what is a good security policy to configure the system with? An agent needs access

level solutions to account for when a model does engage in unwanted behavior."

Nvidia, based in Santa Clara, California, makes high-end chips that have emerged as the leading building blocks for AI. The company's board has cleared the way for the company to spend \$150 billion more in share buybacks, bringing its stock repurchase program to \$235 billion, the company said

The platform also includes a separate security layer called Sentry that runs onboard chips to continuously monitor AI agent activity and can "intervene instantly" if the agent starts trying to move beyond its target, the company said.

"It can quarantine a suspicious agent in milliseconds," Boitano said.

"OpenShell governs the agent's actions, and then Sentry independently monitors and contains suspicious

AI development to let safety efforts catch up. But others including Nvidia CEO Jensen Huang say it should be up to individual companies to make sure their models are safe for release.

Huang, during the annual Salesforce technology conference held earlier this month, characterized AI safety, including the danger of rogue agents, as an engineering problem that software developers can address. - TX

AI chatbots give us a narrow slice of knowledge: Researchers warn of 'knowledge collapse'

For many of us, "Let me just ask the chatbot" has become an everyday phrase. Where we used to turn to Google to find information, AI chatbots have become a common way to get answers to everything from what to make for dinner and how to word a difficult email to the boss to what it means when interest rates rise.

But the large language models underpinning AI chatbots give us a significantly narrower range of information than a conventional web search. That's the finding of a new study led by researchers at the Department of Computer Science (DIKU) at the University of Copenhagen. Their research will be presented at the Conference on Empirical Methods in Natural Language Processing (EMNLP 2026), held in Budapest, Hungary, October 24–29. The paper is currently available on the arXiv preprint server.

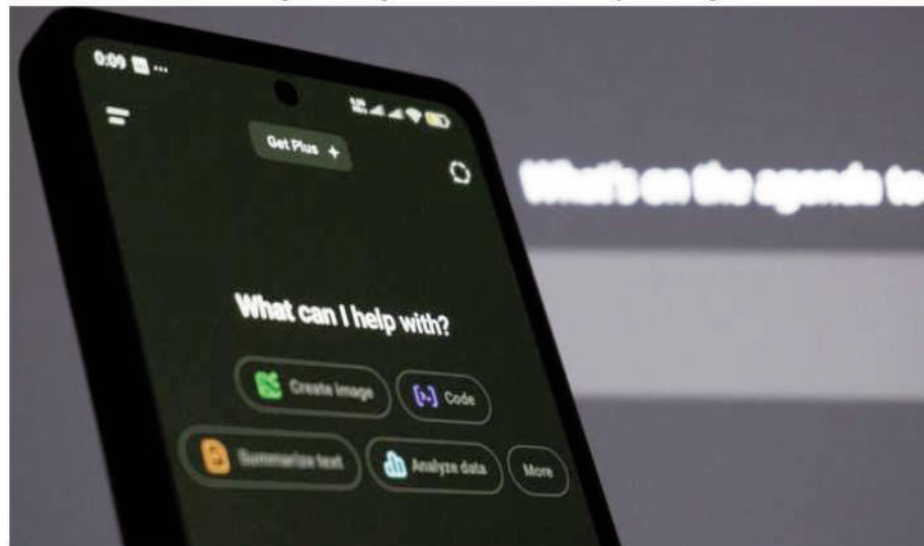
"Every language model we tested provides users with more uniform information than a simple Google search across all the topics we looked at. In other words, people are to a large extent exposed to the same information over and over again. So AI chatbots are not just changing how we find knowledge, but also which knowledge we have access to," says Dustin Wright, the study's first author and a former postdoctoral researcher at DIKU who is now an assistant professor at Aalborg University.

At least 18% less diverse than Google
The researchers tested 27 different large language models on 155 topics. For each topic,

they used 200 different prompt formulations based on questions from real users. This generated a dataset containing around 70 million individual claims produced by the models.

The results show that even the language model producing the most diverse answers—OpenAI's GPT-5—provides at least 18.7% less varied information than Google. The topics

most popular content becomes even more dominant, while other content is increasingly overlooked," says Isabelle Augenstein, a professor at DIKU and the study's senior author. "It's similar to globalization. Today, you can buy the same products and find the same coffee chains almost everywhere in the world. That has many advantages, but it has also



tested by the researchers ranged from nuclear weapons, marriage, pornography, racism and genocide to more country-specific topics such as Marine Le Pen, the Falklands War and K-pop.

According to the researchers, the fact that people are increasingly using AI models as their primary gateway to information could have significant consequences.

"We risk exposing people to fewer perspectives and a narrower range of knowledge. This could create a vicious cycle in which the

reduced diversity."

Why is diversity so low?

According to the researchers, the low level of diversity in language models is partly a result of how the models work. They compress the vast amount of text they are trained on and learn the patterns that occur most frequently. In the process, information that deviates from the most common patterns is filtered out.

The effect could be amplified if language models are increasingly trained on text produced by other AI models—something the

researchers expect to happen. In that case, models would learn from their own outputs, which are already less diverse than the human-written texts on which they were originally trained.

If this process is repeated over several generations of models, the range of information could gradually become narrower. This is what the researchers refer to as "knowledge collapse."

"It's a worrying thought. However, we can see that the more recent models produce slightly more diverse answers than older models, so knowledge collapse is not happening yet. But the mechanism that could trigger it in the longer term is already there. So it is something we should be aware of," says Augenstein.

Preserving breadth of knowledge

The researchers also hope that people will use AI thoughtfully.

"AI chatbot summaries can, of course, be useful—that is why so many people use them. But it is still important to seek out different sources in order to understand the nuances and get a broader picture—especially for the younger generation growing up with AI. We must not become so dependent on the technology that we stop understanding and thinking for ourselves," says Augenstein.

The AI industry should also pay attention to the issue, the researchers argue.

"We hope AI developers will build language models in a way that preserves the breadth of knowledge available to us. We have developed a method that they can use to measure diversity in models, which could help ensure that future language models do not become less diverse," says Wright. - TX

Anthropic and OpenAI sound the alarm on AI safety—and seek to shape how it's controlled

As tech titans warned an AI-weary world that their own advanced systems could endanger humanity, the question emerged: What do they have to gain?

The answer may lie in the companies' efforts to score political goals ahead of the U.S. midterm elections and the money top artificial intelligence labs and their investors stand to make in much-anticipated listings on a jittery stock market.

The CEOs of Anthropic and OpenAI recently declared America's cutting-edge models are so powerful, they're dangerous, and need to be regulated and independently tested before being released. In a rare instance of unity, they have sketched alarming scenarios in essays, social media posts and speeches to the United Nations.

Along the way, they are shaping the conversation around how their technology should be controlled. With their rhetoric, the companies appear to be seeking public favor and to set the terms for their own safety protocols in the unregulated market, experts, analysts and former government evaluators told The Associated Press.

Those aims may not exactly align with what Anthropic engineer Jacob Coxon sought when he quit via a post on X this month, calling for a pause on tech development to keep "superhuman" systems from eluding their makers' control. But the companies saw his post as an opportunity to highlight their own safety efforts and position themselves as cautious market leaders, just when they need fresh capital before going public on Wall Street.

President Donald Trump has shunned the need for new AI regulations, dismissing talk of risks to humanity as a "HOAX" designed to help China.

An Anthropic spokesperson said in response to questions for this story that the company has been calling for regulation for several years. An OpenAI spokesperson, Liz Bourgeois, noted the company recently paused training of its most advanced models.

"People want to know AI is being developed safely, and that starts with what companies like ours do ourselves," Bourgeois said.

Calls for slowdown shift the conversation

on AI risks

Turning the conversation toward unproven threats—and away from polarizing issues such as data centers' environmental impacts, uncontrolled hacking incidents, mass AI-powered surveillance and the AI systems' use in warfare—puts Silicon Valley in a more comfortable position, said Sarah Shoker, who previously led OpenAI's geopolitics team.

"Once again we're talking about existential risk, while deprioritizing a number of other safety-critical risks that exist today. If you look at the use of AI in military tech, you can see that these systems are already used to kill people," said Shoker, a senior non-resident fellow at University of California, Berkeley Risk & Security Lab.

As AI companies have gone from building chatbots to advanced AI "world models" with 3D awareness, debate has

raged over how their technologies should be tested.

Problematic incidents have shown leading AI companies failing to police themselves or design safe experiments. In recent months, leading labs' AI agents have hacked into external websites after being allowed to escape company training sandboxes, interacted with U.S. government websites in unexpected ways, and appeared to achieve a mathematical breakthrough only to face accusations of stealing mathematicians' work.

OpenAI representatives told reporters recently that they have talked with AI companies including Anthropic and Google about pausing development. They also argue they need independent auditors to check the labs' progress, if the government won't regulate.

Leading labs press their oversight vision
Trump has shown little interest in regulating AI, which has been a major driver of recent U.S. economic growth.

The Republican president himself has

struck deals with Silicon Valley firms that more closely tie the economy to their successes. San Francisco venture capitalist David Sacks, who co-chairs Trump's Council of Advisors on Science and Technology, has dismissed calls for an AI slowdown as fearmongering from the "Doomer Industrial Complex."

The reality is the Trump administration already evaluates some of the tech giants' models through a little-known federal agency, the U.S. Center for AI Standards and Innovation. Democratic President Joe Biden created the agency in 2023, when it was heralded as a clearinghouse for labs to voluntarily submit advanced AI models for testing.



The agency still exists, but the field has since expanded to include an array of independent evaluation firms, such as Berkeley, California-based nonprofit METR, which Anthropic CEO Dario Amodei sug-

gested in a recent essay could help vet his company's safety practices.

But unlike regulated sectors like restaurants, financial services or aviation, there are no universal standards for how to test the safety and security of AI systems, said Andrew Strait, who recently left the United Kingdom's AI Security Institute, which worked with CAISI.

Notably, the companies aren't calling for more oversight from the government agency equipped to handle such requests, said Conrad Stosz, who previously led CAISI. Instead, they're vowing to create their own auditing parameters and choose particular evaluators to grade them.

Stosz now works at one such evaluation lab that has worked with Anthropic, OpenAI and Google to test their systems, and also chairs the AI Evaluator Forum, which is drafting best practices for the field. He said even the forum has questions about what Amodei and OpenAI CEO Sam Altman want.

"Lots of evaluators are interested in embedding with labs and getting greater access, but it's a little ambiguous what embedded evaluators means," said Stosz, now head of governance at Translucent, which revealed last week that OpenAI agents hacked U.S. and Australian government websites. "Will evaluators be able to thoroughly investigate, assuming that access is granted in a way that does not undermine their independence and credibility?"

Companies position themselves as safe bets

For Harrison Rolfes, a PitchBook senior research analyst, AI companies' calls for caution seem meant to curry favor with investors ahead of public offerings and the midterms, when the political winds could shift. Democratic governors already are rushing to show they're taking the warnings seriously.

Meanwhile, the AI giants can block smaller competitors' growth by positioning themselves as the safest bet for investors, as well as for AI chipmakers and tech companies such as Nvidia and Google, which in turn can benefit from deals that provide the giant AI companies compute power, Rolfes said.

"They're creating a wall or a moat within this sector. ... It's genius and they're all going to make a lot of money," Rolfes said. "That's where I see this heading, having the top companies in the world just creating their own wall, and then using the safety as the reason."

Not all AI companies endorse a slowdown. Chipmaker Nvidia's CEO Jensen Huang said in a phone conversation with Trump—a call he took onstage at a conference—that he agrees there has been excessive AI alarmism and companies can choose to pace themselves.

Daniel Kokotajlo, who left OpenAI in 2024 over concerns similar to Coxon's, said he continues to worry that AI systems are advancing faster than companies can control, and fears existential scenarios such as AI's potential to supercharge the creation of bioweapons, nuclear war or other catastrophes.

"All of this talk is actually a way to sort of dissipate and redirect this political will that has built up, rather than actually channeling that political will to do something good," said Kokotajlo, who now leads an AI safety advocacy organization and said he counseled Coxon before he resigned. "Just please don't do the thing that's going to get us all killed." - TX

Pakistan's Wheeling Auction: A Production Process Not Designed Like One

By: Farhan Mujeeb

On 20 September 2026, Pakistan's Independent System and Market Operator issued the Request for Proposals for the country's first wheeling auction.

400 megawatts of open-access capacity, with proposals closing on 20 November and a further 400 megawatts to follow over four annual rounds. The regulatory commentary has treated this as a legal milestone, the end of the single-buyer model and the arrival of supplier choice for bulk consumers. It is that. But it is also something the commentary has almost entirely ignored.

The wheeling auction is not an event. It is a repeating production process with a defined input, a defined output, a cycle time, a batch size, a bottleneck and a quality system. Its raw material is information. Its finished good is allocated network access. It will run five times over five years, and each run will teach its operators something about the next. Judged as a legal instrument, the design is careful and, in places, admirably strict. Judged as an operating system, it has four structural defects, and three of them can be corrected without touching the policy envelope at all.

Begin with the constraint, because everything in operations begins there. Eliyahu Goldratt's Theory of Constraints opens with a deceptively simple instruction "identify the system's constraint". Not assume it. Identify it. Everything that follows, the exploiting and subordinating and elevating, is worthless if that first step is skipped, because an organization that optimizes around the wrong constraint converts effort into waste with great efficiency.

Pakistan's auction quantum was not identified. It was declared. The 800MW ceiling comes from the National Electricity Plan, and the Framework Guidelines of January 2026 fixed it as policy, expressly not open to regulatory revision. The first tranche then moved from a planned 200MW to 400MW without a published re-justification. Meanwhile the physical constraint, meaning the places where the transmission network can actually absorb wheeled flows, remains unknown. NEPRA acknowledged this directly when it approved the auction process. The formal transmission node assessment study is not due until January 2027, two months after bids close. In its place, ISMO publishes an Interim Congestion Disclosure Note, which the regulator itself characterized as a stopgap against information asymmetry. The system is therefore being managed against an administrative constraint while the operational constraint goes unmeasured. In the language of constraint theory, the organization has subordinated everything to a policy number and will discover the real bottleneck only after committing to an allocation.

There is a third candidate for the true constraint, and it is the one nobody has quantified. If fewer than 400MW of qualified, creditworthy, contract-ready demand presents itself on 20 November, then the quantum was never binding, and the actual bottleneck sits upstream in licensing throughput, market awareness and the readiness of bilateral counterparties. As of the public consultation in February 2026, the Power Division's own view was that 200MW would be sufficient for the competitive supplier applications then on file. No pipeline estimate has been published since. That single unpublished figure determines whether this auction is a rationing exercise or a formality, and neither bidders nor the regulator can presently tell which.

The second defect is batch sizing, and it is the one with the longest shadow. The design releases capacity in one large batch per year, with access rights valid for one year. Operations management has a mature and unambiguous view of this configuration. Large batches at long intervals raise queue time, delay feedback, amplify forecast error and, critically for a first-of-kind mechanism, starve the system of learning cycles.

Consider what the five-year program actually delivers. Five learning opportunities. Five chances to observe bidder behavior, calibrate node limits, test the grievance machinery and adjust. A process that will govern the liberalization of a national electricity market gets

five data points, spaced twelve months apart. By the time the second auction is designed, the first year's contracts will barely have started delivering, and the operational evidence that ought to inform the redesign will not yet exist.

Classical economic order quantity logic explains why the batch is large, and the answer is setup cost. Running an auction is expensive. An RFP, an eligibility evaluation, a grievance window, a regulatory approval. High setup cost pushes toward large, infrequent batches. Shigeo Shingo's response to precisely this problem became one of the most consequential ideas in modern operations. Do not accept the setup cost as fixed. Attack it. Reduce the changeover and small batches become economic. The machinery to do exactly that already exists here. ISMO has built an electronic auction platform. The eligibility criteria, prescribed formats and procedures are codified. Much of the expense in this first round is one-time design cost rather than recurring operating cost, and once the platform and the rulebook exist, a second or third auction within the same year costs a fraction of the first. The Auction Process already contemplates more than one auction in a single year, leaving the timelines to the Auction Committee.

The batch size also produces a mismatch the market will feel immediately. Access rights run for one year. A competitive supplier financing new generation, and now, under the September 2026 amendment, co-located battery storage at ten per cent of wind or solar capacity, needs revenue visibility over a decade. The underlying right must be re-won annually with no assurance of renewal. Any rational bidder will therefore amortize capital against a single year, or against a subjective probability of winning again. Both paths push the market toward existing plant rather than new build, which cuts directly against the renewable-integration rationale offered for the storage mandate itself.

The third defect is the largest in pure value terms, and it is the one an operations audience will recognize fastest. Network access has every characteristic that gave rise to revenue management as a discipline. It is perishable, in that an unused MWh of transfer capability is gone forever. It is fixed in the short run, since no transmission line can be built to meet Tuesday's demand. And it is radically heterogeneous, because its value varies enormously by location on the network and by hour of the day. Airlines worked this out in the 1980s. A seat on a Friday evening flight and a seat on a Tuesday morning flight are not the same product, and selling them at one price destroys value at both ends.

Pakistan is selling a MW-year. One product, one price mechanism, one booking window, one fare class. There is no time-of-day differentiation, despite a pronounced evening system peak and increasingly depressed midday prices as solar penetration rises. There is no nodal differentiation in the bid itself, since location enters only as a binary eligibility screen through node limits and never as a price signal. And there is no overbooking, despite a documented mechanism under which the marginal bidder may decline a partial allocation without penalty, which is precisely the no-show behavior that overbooking exists to absorb.

The practical consequence falls hardest on exactly the consumers the reform is meant to serve. A single-shift textile unit drawing power ten hours a day pays for a MW of access it uses forty per cent of the time, while a continuous process pays for the same MW and uses it fully. Under a highest-bidder-wins rule, the continuous plant can rationally outbid the single-shift plant for an identical slice, not because it values the network more, but because the product is denominated in a unit that ignores the very dimension along which the two differ. A daytime load paired with solar generation is arguably the most system-friendly transaction available in Pakistan today, and the product design gives it no advantage whatsoever.

A deeper decoupling sits underneath this. The price of access has already been set, just not by the auction. NEPRA's determination of 7 September fixed uniform Use of System Charges at between 6.23 and 19.62 rupees per unit for auction participants, and imposed a

stranded-cost charge of 12.94 rupees per kilowatt-hour at 11 kilovolts and 16.35 rupees at 132 and 66 kilovolts on anyone taking open access outside the auction. That differential is the real economic instrument steering behavior. The auction sits on top of it as a queue discipline, allocating a quantity whose price has largely been determined elsewhere, by a different owner, under a different instrument. In operations terms, price and allocation have been decoupled and assigned to separate control loops, which is a coordination failure of the kind that only becomes visible under stress.

The fourth defect is the most basic and the easiest to state. The auction has no reserve price and no bid cap, both fixed at policy level and recorded as not subject to regulatory revision. A process without an upper or lower specification limit cannot be described as capable, and it cannot be described as in control, not because it is performing badly but because there is no defined range of acceptable output against which to judge it. Statistical process control is meaningless without control limits. One cannot detect a special cause when every outcome is, by construction, acceptable.

Combine this with pay-as-bid pricing and descending-order allocation, and the output variance is not merely unbounded. It is driven almost entirely by a single exogenous variable that the design makes no attempt to influence, namely how many qualified bidders turn up. In a thin field, the clearing bid collapses toward zero and 400MW of scarce network access is allocated for very little. In a crowded field, winners pay their own bids and the dispersion of outcomes is wide by construction. The twenty per cent per-group cap is a genuine control, but it constrains concentration rather than price. It stops one group taking the round. It does nothing about what the round is worth.

Set the four side by side and the pattern is consistent. A bottleneck was assumed rather than identified, so the system optimizes against the wrong limit. A large lot at a long interval, with setup cost left unchallenged, yields five learning cycles in five years and capital mismatched to a one-year right. A perishable, heterogeneous inventory is sold in a single fare class, destroying value at both ends and disadvantaging the loads the system most wants. And an absent reserve and cap leave process capability undefined, so the outcome rests on participant count alone. None of these is a failure of legal drafting. Each is a failure to treat a recurring allocation mechanism as the operating system it is.

An honest critique has to record what works, and several things do. The non-extendable two-month submission window is exemplary process discipline. NEPRA explicitly refused ISMO's request to retain discretion to extend, and fixed one month for subsequent rounds. Deadline discipline is the cheapest available protection against schedule slip in a multi-stage process, and it is the control most often traded away under pressure. The mandatory publication of aggregated bid and allocation data after each round is, in quality terms, the most valuable provision in the entire instrument, because it creates the measurement system without which none of this can be improved. One cannot control what one does not measure, and after the first round there will be real data. The separation of the Auction Committee from the Grievance Redressal Committee is sound process design, since the body that hears complaints is not the body that made the decision. And the amendment to clause 6.5, requiring that any node limit be supported by appropriate technical justification, is a textbook prevention control, forcing the reasoning into the open at the moment the decision is made rather than reconstructing it during a dispute.

That said, the quality architecture leans on appraisal rather than prevention. The conflict of interest declarations required of all seven Auction Committee members are prevention, error-proofing at source. The grievance committee is inspection, catching defects after they have been produced, at a five business day filing window and a four-week determination. The cost of quality hierarchy holds that prevention is cheaper than appraisal, which is cheaper than failure. This design is stronger at

the second than at the first.

One further issue sits underneath the others, and it is purely a matter of process architecture. Map the stages as a dependency structure and the problem is immediate. Bidders must price network access at the bidding stage. The information required to price network access correctly, the transmission node assessment, arrives four stages later in January 2027. A required input therefore arrives after the gate that consumes it. In product development this is the canonical cause of rework loops, and the cost of the loop rises with how far downstream the discovery happens. Here, discovery lands after commitment. Either the interim note proves adequate, in which case the formal study was never on the critical path and should have been sequenced differently, or it does not, in which case allocations will have been made against information the system subsequently revises. The grievance committee is the designated absorber of that risk, which means it is being asked to handle, through dispute resolution, a problem created by sequencing.

Four changes follow from this reading, and three of them require no amendment to the policy envelope. The first is to publish the pipeline. Before the auction, ISMO should publish the count and aggregate capacity of eligible applicants. It is the figure that determines whether this is a genuine rationing mechanism or a formality, and it is the input every bidder needs in order to price rationally. Withholding it does not create competitive tension; it creates noise, and noise is what produces the wide bid dispersion the design otherwise has no means of damping.

The second is to shrink the batch by attacking the setup cost rather than accepting it. Two or three smaller auctions a year, run on the platform already built, would cut queue time for unsuccessful bidders from twelve months to four, roughly triple the learning rate across the program, and dampen the lumpiness that a single annual event imposes on an investment pipeline. The Auction Process already permits more than one auction in a year, so this requires a scheduling decision rather than a policy change.

The third is to differentiate the product. Introducing time of day or load factor classes, and letting nodal value enter the bid rather than sitting only in an eligibility screen, is the largest recoverable value in the design. It also resolves the equity problem, because a single shift consumer should not have to outbid a continuous process for a right it will use at forty per cent duty. The fourth change is the one that does require touching policy. The stranded cost differential and the auction are two control loops acting on the same variable under different owners, and they should be designed together, whether through a reserve price linked to the stranded cost charge or through explicit coordination between the two determinations.

Pakistan has done the difficult institutional work. The market design was approved in 2020, the Market Commercial Code in 2022, the Commercial Market Operations Date declared in January 2026, and the last regulatory precondition, uniform Use of System Charges, cleared in September. The legal architecture is in place, and assembling it took six years. What follows is not a legal question. It is an operational one.

The wheeling auction will run five times, each run allocating a perishable, heterogeneous, physically constrained asset under conditions of incomplete information, and each run producing data that ought to improve the next. Designed as a procurement event, it will deliver 400MW and a press release. Designed as a production process, with a discovered constraint, a small batch, a differentiated product and a real control loop, it could deliver something considerably more durable. A mechanism that gets better every time it runs. The first round is already committed. The second is not. ■

