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APRIL 2026



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THE NEXT GENERATION

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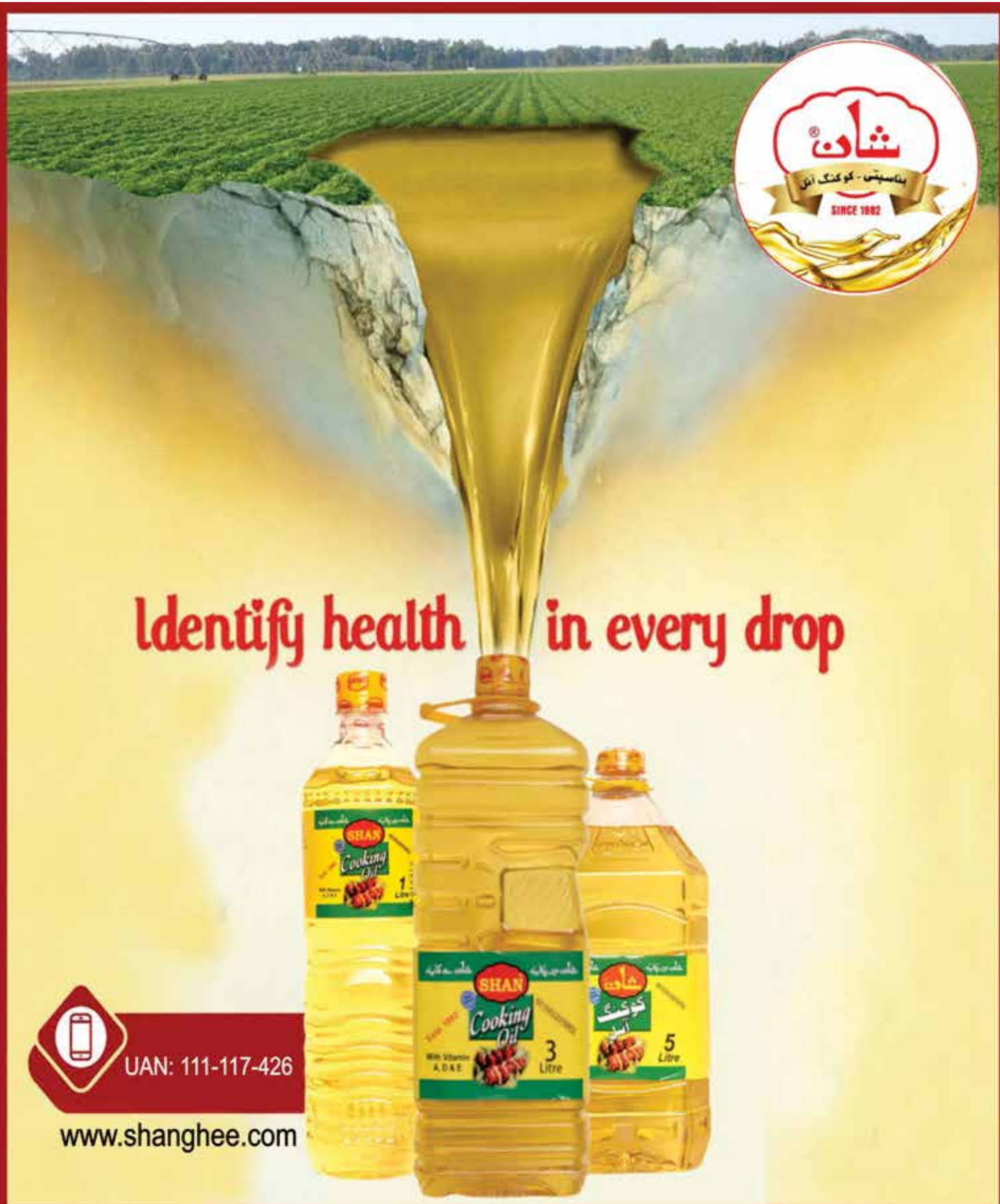


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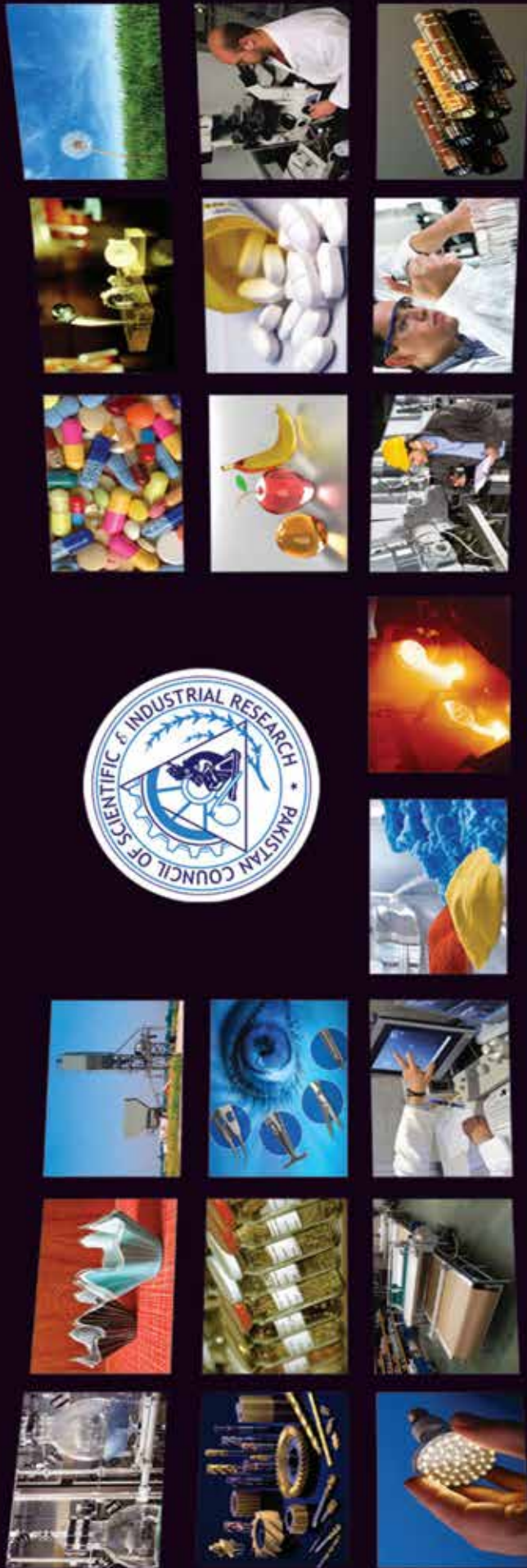
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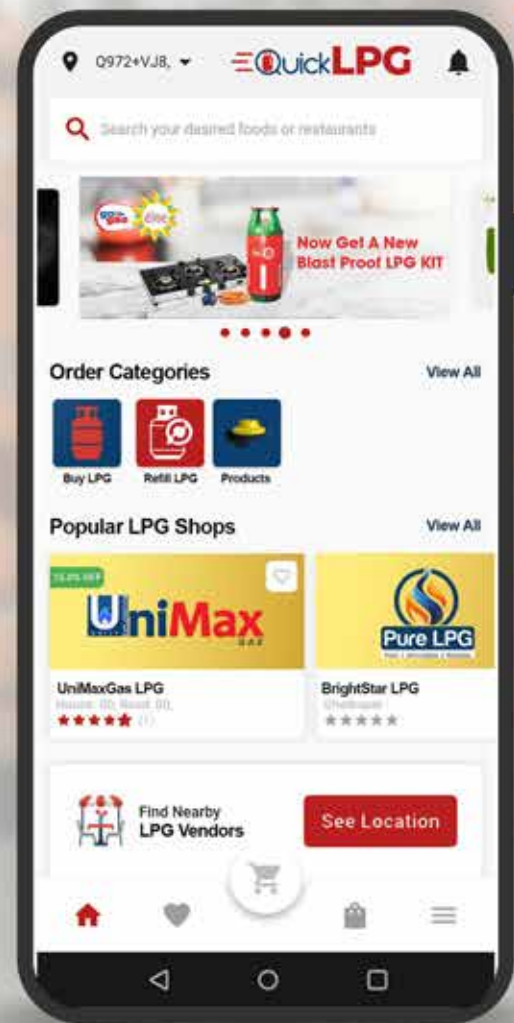
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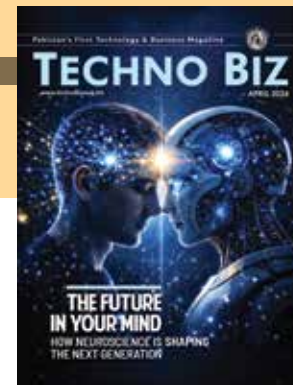
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EDITORIAL



BRAINS BEFORE BORDERS: WHY YOUTH MUST LEAD THE NEUROSCIENCE REVOLUTION

In an age where artificial intelligence writes code, machines learn from experience, and technology reshapes industries overnight, one truth remains constant: the most powerful system in the world is still the human brain. At the center of understanding this remarkable organ lies neuroscience, a field that is no longer confined to laboratories but is rapidly becoming a cornerstone of global progress. The real question is not whether neuroscience will shape the future, but whether today's youth are ready to lead that transformation.

For decades, science education has focused on memorization rather than understanding. Neuroscience challenges this outdated model by revealing how learning actually works. The concept of neuroplasticity has proven that the brain is not fixed but constantly evolving. This means intelligence is not something you are born with, it is something you build. For young people, this is a powerful shift. It replaces limitation with possibility and encourages a mindset of growth, resilience, and continuous improvement.

At the same time, the world is facing a silent crisis in mental health. Conditions like Depression and Anxiety disorder are rising among young populations across the globe. Neuroscience offers a new lens through which these challenges can be understood. It moves the conversation away from stigma and toward science, showing that mental health is deeply connected to brain function, chemistry, and environment. This understanding is critical, not only for treatment but for prevention and awareness. Yet, the influence of neuroscience extends far beyond health and education. It is now at the heart of technological innovation. Companies like Neuralink are developing brain computer interfaces that may soon allow humans to control devices with thought alone. What once seemed like science fiction is quickly becoming reality. This convergence of biology and technology signals a future where human capability could be enhanced in ways never imagined.

However, with such transformative power comes responsibility. Who will decide how these technologies are used? Who will address ethical concerns such as brain privacy, data security, and human identity? The answer must include the youth. A generation that understands both technology and humanity is best positioned to ensure that innovation remains ethical, inclusive, and beneficial for all.

This is where academic platforms and competitions play a crucial role. Events like the Netherlands Hersen Olympiade are not merely contests, they are incubators of future leaders. They introduce students to complex scientific ideas at an early stage and encourage them to think critically about real world problems. By participating in such initiatives, students gain more than knowledge. They gain confidence, curiosity, and a sense of purpose.

Moreover, these competitions connect young minds to global opportunities. Through platforms linked to the International Brain Bee, students can engage with peers and experts from around the world. This exposure is invaluable in a field that thrives on collaboration and shared knowledge. It helps break geographical barriers and fosters a global community of thinkers and innovators. Despite these opportunities, a gap still exists. In many parts of the world, access to quality science education and awareness about neuroscience remains limited. This gap must be addressed if we are to unlock the full potential of the next generation. Governments, educational institutions, and private organizations all have a role to play in making neuroscience accessible, engaging, and relevant to youth.

The urgency is clear. We are entering an era where understanding the brain will be as important as understanding computers. The decisions made today in neuroscience will shape healthcare, education, technology, and even the nature of human interaction in the future. Ignoring this field is not an option, especially for young people who will inherit the consequences of these advancements. The path forward is not complicated, but it requires commitment. Young individuals must be encouraged to ask questions, explore science, and participate in platforms that challenge their thinking. Schools must shift from rote learning to curiosity driven education. Societies must celebrate scientific achievement with the same enthusiasm as they celebrate entertainment and sports. The future does not belong to those who simply adapt to change, it belongs to those who understand it and drive it. Neuroscience offers that understanding. It provides the tools to improve not only individual lives but entire societies.

The message to the youth is clear and urgent. Your brain is your greatest asset. Invest in it, challenge it, and use it not just to succeed, but to lead.

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PUBLIC AWARENESS MESSAGE

RISING PRICES, SHRINKING BUDGETS: UNDERSTANDING PAKISTAN'S COST-OF-LIVING CRUNCH



AZHAR RAFIQUE
Member, Advisory Board
TechnoBiz

Pakistan's economy has long experienced ups and downs, but in early 2026, everyday life is becoming particularly challenging for many families. Rising fuel prices, inflation, and stretched household budgets are affecting daily life across the country. Understanding the reasons behind these challenges is important for citizens to navigate them more effectively.

Prices are rising due to a combination of structural weaknesses in Pakistan's economy and external pressures. The country relies heavily on imports for energy and consumer goods, which makes it vulnerable to global price fluctuations. Exports remain relatively low, and the trade deficit has put additional strain on the national economy. Recently, tensions in the Middle East, particularly involving Iran, have disrupted global oil markets. Pakistan, as a country dependent on imported oil and fuel, has faced sharp increases in international energy prices. These price surges have directly affected domestic fuel costs and, because fuel is a critical component of transportation, agriculture, and industry, the ripple effects are felt across all sectors.

The government has responded by raising petrol and diesel prices to cope with international pressures. While necessary from a fiscal perspective, these increases have added stress to household budgets. The effects are most visible in daily life. Filling a vehicle with fuel has become more expensive, and public transport fares are rising as buses, rickshaws, and taxis pass on the additional cost to passengers. The transportation of goods, including essential food items, now costs more, pushing up prices in local markets. Electricity and energy bills have also increased because power generation and distribution rely on fuel. Many families find that their



budgets, which once comfortably covered food, transport, and other essentials, now feel stretched. During periods like Ramadan, when food prices traditionally rise, these additional costs make daily life even more difficult.

Inflation, the rise in general prices, has become a major concern for citizens. While official numbers may vary, most people experience higher costs for basic necessities compared to a year ago. Economists warn that persistent fuel price hikes contribute to rising transport and food costs, further driving inflation. This not only affects consumer purchasing power but also has the potential to slow down economic growth. Despite these pressures, Pakistan's economy has shown some resilience, with industrial growth and improvements in sectors such as manufacturing, services, and remittances from overseas workers helping stabilize foreign exchange. However, these gains take time to benefit ordinary households and are often overshadowed by sudden cost increases.

For many citizens, the cost-of-living crisis is not just a headline but a daily reality. Families have to adjust by cutting back on non-essential items, avoiding travel, and seeking more affordable goods. Salaries and wages often lag behind rising prices, making it harder to maintain previous standards of living. Daily-wage workers and

those with irregular incomes face the most immediate difficulties, as they have little financial buffer to absorb these shocks. Even households that are not classified as poor feel the impact and must make careful choices to balance their spending.

Addressing these economic strains requires both short-term relief and long-term solutions. Targeted government support for the most vulnerable families can ease immediate pressures. Diversifying energy sources and reducing reliance on imported fuel can protect the economy from future global price shocks. Encouraging local production and exports helps improve the trade balance and create more sustainable economic growth. Political stability and confidence in governance are also crucial to attract investment and stimulate economic development.

Understanding why prices rise and how they affect daily life allows citizens to make informed financial decisions and participate in discussions about economic policy. Economic struggles are not unique to Pakistan, but the scale and combination of pressures here make public awareness and dialogue more important than ever. By staying informed and adapting to the changing economic landscape, people can better navigate these challenging times with resilience and clarity.



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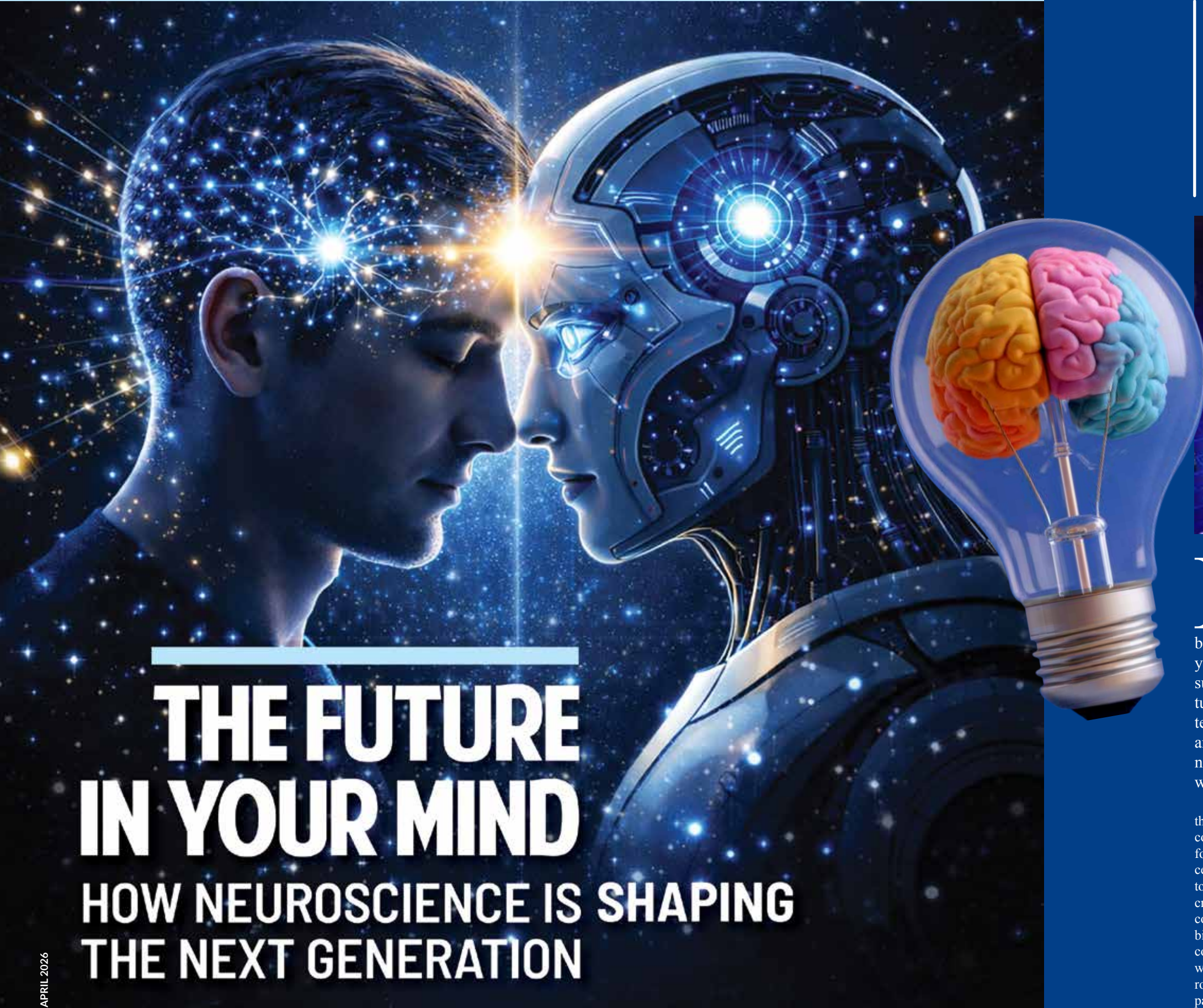
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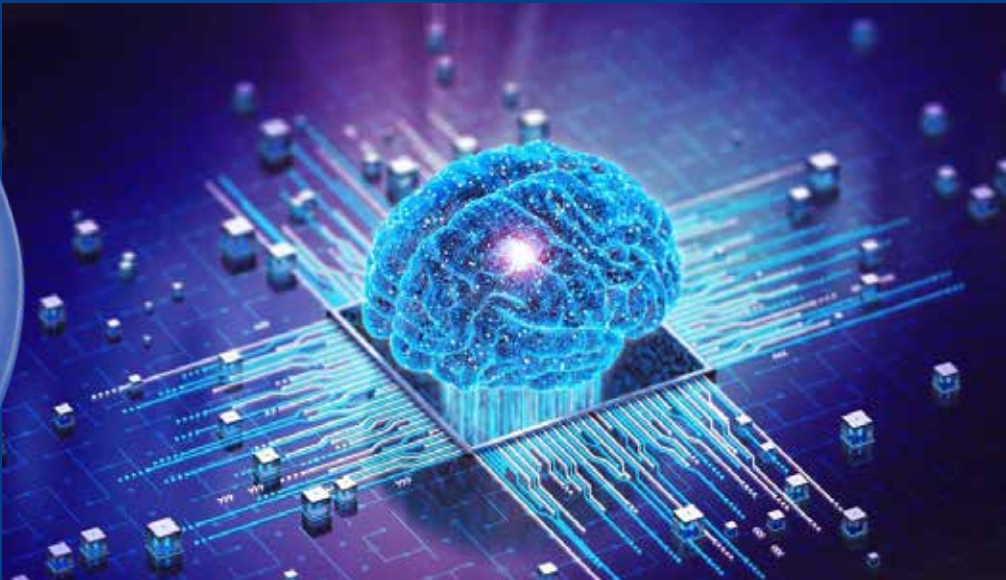
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THE FUTURE IN YOUR MIND

HOW NEUROSCIENCE IS SHAPING THE NEXT GENERATION

NEUROSCIENCE IS RESHAPING UNDERSTANDING OF HUMAN POTENTIAL, LEARNING, AND MENTAL HEALTH. IT OFFERS TOOLS TO IMPROVE MEMORY, EMOTIONAL INTELLIGENCE, AND ADAPTABILITY. YOUTH CAN EXPLORE CAREERS IN MEDICINE, AI, AND INNOVATION. NEUROPLASTICITY SHOWS BRAIN'S ADAPTABILITY, EMPOWERING YOUNG MINDS TO RESHAPE THEIR POTENTIAL. FUTURE ADVANCEMENTS HOLD EXCITING POSSIBILITIES.



In a world driven by rapid innovation, one field stands at the center of understanding who we are and what we can become: neuroscience. For today's youth, neuroscience is not just a subject, it is a gateway to the future. From unlocking human potential to treating complex diseases and even merging with technology, neuroscience is reshaping the way we think, learn, and live.

The human brain is often described as the most complex object in the universe. It contains around 86 billion neurons, each forming thousands of connections. Despite centuries of study, we are only beginning to understand how this intricate network creates thoughts, emotions, memories, and consciousness. Modern neuroscience combines biology, psychology, physics, and computer science to explore how the brain works. For young people, this means neuroscience is not limited to a single career path, it opens doors to medicine, artificial

intelligence, education, and even business innovation.

Today's generation is growing up in a time where mental performance, emotional intelligence, and adaptability are more important than ever. Neuroscience offers tools to improve all three. One of the most important contributions is enhancing learning and memory. Research shows that the brain is highly adaptable, a concept known as neuroplasticity. This means that with the right habits, anyone can improve their ability to learn and retain information. Students who understand how their brain works can study more efficiently, build stronger memory, and overcome learning challenges. This knowledge transforms education from passive memorization into active brain training.

Mental health awareness is another critical area where neuroscience plays a powerful role. Mental health challenges are increasing worldwide, especially among youth. Neuroscience helps us understand the biological roots of conditions like Depression and Anxiety disorder. Instead of viewing these as personal weaknesses,



neuroscience shows they are linked to brain chemistry and neural circuits. This reduces stigma and encourages young people to seek help, support others, and build resilience.

Neuroscience is also opening up exciting career opportunities for the future. Young people interested in this field can explore careers in medicine, psychology, artificial intelligence, robotics, and pharmaceutical research. Companies like Neuralink are already working on technologies that connect the human brain directly with machines, opening possibilities that were once considered science fiction. This means the youth of today can become the innovators of tomorrow.

One of the most exciting developments in neuroscience is the creation of brain computer interfaces. These systems allow direct communication between the brain and external devices. Imagine controlling a computer, phone, or even a prosthetic limb using only your thoughts. This is no longer imagination, it is becoming reality. For young people, this creates opportunities to combine neuroscience with engineering and solve real world problems such as disability and paralysis.

Neuroscience is also transforming how we understand and treat serious conditions such as Alzheimer's disease and Parkinson's disease. Researchers are exploring gene editing tools like CRISPR

to correct genetic defects before they cause disease. Early detection methods are also being developed to identify problems years before symptoms appear. Young scientists entering this field today could be the ones to discover cures, improve quality of life, and extend human lifespan.

One of the most empowering discoveries in neuroscience is that the brain can change throughout life. This ability, known as neuroplasticity, means that skills, habits, and even personality traits can evolve with experience. For young people, this is a powerful message. Your brain is not fixed, your potential is limitless. By practicing new skills, maintaining discipline, and embracing challenges, youth can physically reshape their brain structure.

This has practical applications in learning languages, developing creativity, building confidence, and recovering from setbacks.

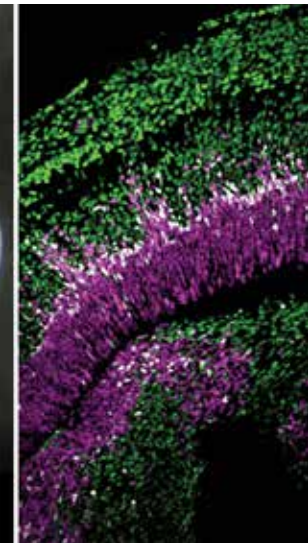
Innovation in neuroscience research is also accelerating at an incredible pace. Scientists are now growing tiny brain like structures called organoids in laboratories. These mini brains allow researchers to study development and diseases in a controlled environment. At the same time, artificial intelligence is helping decode brain activity. AI systems inspired by neural networks are not only advancing



technology but also helping scientists understand the brain itself. This intersection of neuroscience and AI is creating a new era of discovery where machines help us understand our own minds.

Global collaboration is playing a major role in advancing neuroscience. Large international projects are bringing together scientists from around the world to accelerate research and innovation. Ini-

Such competitions are not just academic contests, they are platforms for discovery and inspiration. They help students develop critical thinking, scientific curiosity, and confidence. Participants gain exposure to real world neuroscience concepts, interact with experts, and experience the excitement of scientific inquiry. Winning or even participating in these competitions can



tiatives like the Human Brain Project provide platforms for large scale collaboration and knowledge sharing. Alongside these initiatives, student focused competitions are playing an equally important role in inspiring the next generation. Events like the Netherlands Hersen Olympiade are creating awareness among youth and encouraging them to explore neuroscience at an early stage.

shape career paths, opening doors to higher education and international opportunities.

The impact of these events extends beyond individual students. They contribute to building a culture of scientific thinking in society. By engaging young minds, they ensure a steady pipeline of future neuroscientists, doctors, and innovators. Competitions linked to global platforms like the International Brain Bee connect students across countries, promoting collaboration and knowledge exchange. This global exposure is essential in a field that relies heavily on shared research and collective progress.

Entering the world of neuroscience does not require advanced degrees at the beginning. Young learners can start by building a strong foundation in biology, chemistry, and psychology. Reading books, watching documentaries, and exploring online courses can provide valuable insights into how the brain works. Participating in competitions and science fairs encourages critical thinking and practical learning. At the same time, practicing healthy habits such as proper sleep, exercise, and good nutrition directly improves brain performance. Staying curious and asking questions about behavior, emotions, and decision making is one of the best ways to begin this journey.

The future of neuroscience holds possibilities that are both exciting and challenging. From enhancing memory to merging human intelligence with machines, the boundaries of what is possible are expanding rapidly. At the same time, ethical questions about brain privacy, artificial intelligence, and human enhancement must be carefully considered. The youth of today will not only benefit from these advancements but will also be responsible for guiding them in the right direction.

Neuroscience is more than a scientific field, it is a journey into understanding ourselves. For young people, it offers a unique opportunity to explore the deepest questions of human existence while shaping the technologies of tomorrow. Whether you aspire to be a doctor, engineer, entrepreneur, or researcher, neuroscience provides tools to think better, learn faster, and innovate smarter.

The message is simple yet powerful. The most valuable resource you have is your brain. Invest in it, understand it, and use it to build a better future not just for yourself but for the world.



POWERING A CITY FROM A SINGLE GLASS OF WATER

FIRST LIGHT FUSION, A UK-BASED COMPANY, IS PURSUING INERTIAL FUSION ENERGY USING A UNIQUE PROJECTILE-DRIVEN APPROACH. THEY AIM TO SIMPLIFY FUSION BY FOCUSING ON HIGH-ENERGY DENSITY PHYSICS AND CLEVER TARGET DESIGN. THEIR METHOD COULD LEAD TO CLEAN, ABUNDANT ENERGY, POTENTIALLY POWERING CITIES WITH FUEL FROM SEAWATER.



CH. SHER BAHADUR
EX. PCS/ PMS

Fusion has captivated scientists and dreamers for decades as the ultimate source of clean, abundant energy. It powers the sun and stars, fusing light atomic nuclei to release tremendous amounts of energy without the long-lived radioactive waste associated with conventional nuclear fission. Yet replicating this process on Earth has remained one of the most daunting challenges in modern science. Billions have been invested worldwide, with approaches like magnetic confinement in tokamaks or laser-driven inertial confinement showing gradual progress, but commercial viability still feels distant. The hurdles include achieving net energy gain, managing extreme conditions, and building systems that are practical and economical.

Amid this landscape, a British company based near Oxford is charting a noticeably different course. First Light Fusion, spun out from the University of Oxford in 2011, is pursuing inertial fusion energy through a method that emphasizes simplicity and ingenuity over brute force. Rather than relying on the massive, intricate laser arrays or superconducting magnets that dominate other efforts, First Light focuses on high-energy density physics and a unique way to compress fusion fuel. Their approach involves firing a high-speed projectile at a specially designed target, where precision-engineered structures amplify the resulting pressure waves to squeeze deuterium fuel to the densities and temperatures needed for fusion.



The company's early breakthrough came when they demonstrated fusion reactions using this projectile method. A roughly 100-gram projectile, accelerated to speeds around 6.5 kilometers per second, impacts a target containing a small capsule of fusion fuel. The target incorporates an amplifier that channels the shockwave, focusing energy inward to create the extreme implosion required. This avoids the need for synchronized lasers firing from all directions or complex magnetic fields. By making the physics of compression more efficient through clever target design, First Light reduces the input energy demands dramatically compared to traditional inertial confinement techniques.

What makes their vision particularly striking is the potential scale of output relative to input. Fusion advocates often highlight how a small amount of fuel could yield vast energy. Deuterium, abundant in seawater, and tritium, which can be bred from lithium, serve as the primary fuels. In First Light's framing, the energy from fusing the deuterium in something as modest as a glass of water could theoretically power an entire city. This vivid illustration underscores the fuel's extraordinary energy density. A single glass holds enough deuterium to release energy equivalent to burning hundreds of tons of coal or oil, once fusion is harnessed efficiently. While practical extraction and reactor design add layers of complexity, the comparison captures the transformative promise: limitless fuel from ordinary water, producing no carbon emissions and minimal waste.

First Light's technology has evolved significantly over the years. They built specialized facilities, including powerful

pulsed power machines and gas guns, to test and refine their concepts. One machine, constructed quickly and cost-effectively, stands as one of Europe's largest dedicated to fusion research. Experiments have validated key aspects, such as achieving fusion and pushing material pressures to record levels on facilities like Sandia National Laboratories' Z machine. These steps build confidence in the underlying physics.

More recently, the company shifted strategic focus. Rather than pursuing a full proprietary power plant immediately, they emphasized partnerships and licensing their amplifier technology for applications in fusion, defense, materials science, and even space research. This allows earlier revenue streams while the broader inertial fusion field advances. Yet their core vision remains intact through the FLARE concept—Fusion via Low-power Assembly and Rapid Excitation. This approach decouples compression from ignition. Fuel is first compressed efficiently using modest pulsed power or other drivers, then rapidly heated by a secondary mechanism, enabling much higher energy gains. Modeling suggests gains up to 1,000, far beyond the breakeven thresholds needed for commercial power. A gain of 200 would make fusion competitive, while 1,000 could deliver exceptionally cheap electricity.

The reactor design complements this innovation. Fusion occurs within a pool of flowing liquid lithium, which absorbs neutrons, breeds tritium fuel, captures heat, and shields chamber walls. This liquid protects components from damage, extends reactor life, and simplifies engineering compared to solid-walled systems. Heat transferred to the lithium would generate steam to

drive turbines, producing electricity in a familiar way. Such a setup targets modular reactors around 400 megawatts, sufficient to supply a mid-sized city like Coventry, while integrating flexibly into grids heavy with renewables.

Recent milestones reinforce momentum. First Light validated high tritium breeding in their FLARE design, addressing a critical barrier to sustainable fuel cycles. Working with partners, they confirmed the system could produce excess tritium, essential for scaling fusion. They also secured UK government contracts and funding to advance simulations and shielding concepts. The UK government's renewed fusion strategy highlights the sector's role in energy security, with First Light positioned as a key player.

Challenges persist, of course. Achieving consistent high gains, scaling to repetition rates for continuous power, and ensuring economic competitiveness require further validation. Fusion has seen many promising paths before, only to encounter unforeseen obstacles. Yet First Light's emphasis on simplicity, lower power drivers, and robust reactor architecture offers a compelling alternative. By shifting complexity from drivers to targets and leveraging natural amplification, they aim to sidestep some of the engineering bottlenecks plaguing other methods.

The appeal extends beyond energy production. Reliable, low-cost baseload power could support energy-intensive sectors like AI data centers, which demand constant supply amid grid constraints. In a world racing to decarbonize while meeting rising demand, fusion represents a potential game-changer. First Light's approach, grounded in university research but driven by commercial pragmatism, embodies the innovative spirit needed to cross the finish line.

As experiments continue and partnerships grow, the idea of powering cities from the fusion equivalent of a glass of water moves from hyperbole toward plausible reality. It serves as a reminder that breakthroughs often come not from bigger machines but from smarter designs. First Light Fusion is betting that rethinking the problem, rather than scaling up existing solutions, could finally unlock the stars' power for Earth. The journey remains long, but each step forward brings the promise closer, offering hope for a future where energy is clean, abundant, and accessible to all.

PHD BOTANY
PLANT MICROBE INTERACTION

FRAGMENTED FIELDS, FRAGILE FUTURES: PAKISTAN'S AGRICULTURAL CRISIS

Pakistan's persistently high population growth exceeding 2.5 percent annually is quietly but steadily reshaping the country's farm structure. With the national population climbing rapidly and placing ever greater pressure on limited resources, the agricultural landscape has undergone a profound transformation over recent decades. In the absence of any laws that restrict excessive subdivision of land, inherited agricultural holdings continue to be divided among family members with each passing generation. This practice, rooted in traditional inheritance systems and cultural norms that emphasize equitable distribution among heirs, has led to a relentless fragmentation of farmland.

As a result, the total number of farms across Pakistan keeps rising while the average farm size shrinks at an alarming pace. This trend finds clear confirmation in the findings of the 7th Agricultural Census of Pakistan 2024, which reports that the number of farm households surged from 8.26 million in 2010 to 11.7 million, marking a 42 percent increase, even as the average farm size declined from around 6.4 acres to 5.1 acres over the same period.

The census data paints a vivid picture of how demographic pressures are altering the very foundation of rural livelihoods. Small farms now dominate the sector, with more than 37 percent of holdings measuring less than one hectare and nearly 57 percent falling below two hectares. Provincial variations highlight the uneven nature of this shift. In Punjab, where agricultural output is highest, over half of farms are smaller than two hectares, reflecting intense population density and repeated subdivisions. Khyber Pakhtunkhwa shows even more acute fragmentation, with an average farm size of just 2.1 acres, while Sindh and Balochistan present somewhat larger averages but still face growing numbers of tiny plots. Cultivated area has actually expanded overall, reaching 52.8 million acres, yet this growth masks the underlying problem of diminishing per-farm viability. What was once a manageable family enterprise has been carved into pieces too small to support modern machinery or efficient irrigation, turning what used to be productive units into marginal operations that struggle to generate surplus beyond bare subsistence.

Family landholdings that were once large enough to be measured in squares, a traditional unit equivalent to about 25 acres, have gradually fragmented first into full acres and then into fractions of an acre. Grandfathers who tilled expansive fields capable of sustaining multiple generations now see their descendants inheriting plots measured in kanals or even smaller fractions. This progressive shrinkage is not merely a statistical curiosity but a structural crisis that threatens the economic foundation of rural Pakistan. Millions of these tiny farms now face serious questions about their long-term viability. Farmers on holdings of less than five acres often find it impossible to afford tractors, quality seeds,

or advanced irrigation systems, leading to lower yields and higher vulnerability to weather shocks or market fluctuations. The result is a cycle of poverty where families remain tied to the land yet earn incomes too meager to invest in improvement or even cover basic needs. Many supplement their farming with off-farm labor or seasonal migration, but this only underscores the inadequacy of the fragmented model. Without intervention, the trend risks pushing millions deeper into subsistence agriculture, where productivity stagnates and food security for the broader population comes under strain.



To many observers and farmers alike, high-value horticulture offers a promising pathway to generate reasonable income even from these shrinking landholdings. Crops such as fruits, vegetables, flowers, and medicinal plants demand intensive labor rather than vast acreage, allowing smallholders to maximize returns per unit of land through careful cultivation and multiple cropping cycles. A single acre dedicated to high-value tomatoes, mangoes, or roses can theoretically yield far more revenue than the same area under traditional wheat or rice, provided markets absorb the output. This shift appeals particularly to rural families seeking to escape the low-margin trap of staple grains. Yet this labor-intensive opportunity remains

THE RAPID POPULATION GROWTH IS REDUCING FARM SIZES, LOWERING YIELDS AND FARMER INCOMES IN PAKISTAN. WITHOUT STRONGER PROCESSING, EXPORT CAPACITY, AND POLICY SUPPORT, LAND FRAGMENTATION MAY WORSEN RURAL POVERTY AND UNDERMINE AGRICULTURAL SUSTAINABILITY.



heavily constrained by structural limitations that prevent it from becoming a reliable lifeline. The domestic market, while growing with urbanization, lacks the depth and consistency needed to absorb large increases in supply. Export potential, which could provide a vital outlet, stays limited primarily because of poor compliance with the sanitary and phytosanitary regulations enforced by importing countries. Issues such as pesticide residue testing, phytosanitary certifications, and traceability requirements create formidable barriers, often resulting in rejected shipments and lost opportunities. Pakistani exporters frequently struggle with delays in obtaining necessary certificates from overburdened regulatory bodies, while inadequate cold-chain infrastructure leads to spoilage during transit.

Consequently, even a modest expansion of 10 to 15 percent in cultivated areas under these high-value crops can quickly create a supply glut, triggering a market crash that wipes out profits and discourages further investment. Prices plummet when supply outstrips demand, leaving farmers with unsold produce that rots in fields or at roadside markets. This vulnerability has been starkly illustrated by the experience of the past two years. Faced with persistently poor wheat prices amid global and domestic pressures, many farmers pivoted toward vegetable and potato cultivation in hopes of better returns. The move initially seemed logical, as these crops offer quicker cycles and higher potential margins on small plots. However, the shift led to heavy losses for thousands when supply-demand imbalances emerged. Oversupply flooded local markets, driving prices down sharply, while the closure of the Afghan border compounded the crisis by cutting off a traditional export route for potatoes, onions, and other perishables. What should have been a profitable diversification instead became a cautionary tale of how fragile the horticultural sector remains without supporting infrastructure or diversified markets. Farmers who invested in seeds, fertilizers, and labor for these crops watched their efforts yield little financial return, sometimes forcing them back to staple grains despite lower profitability.

The challenge is further aggravated by Pakistan's nearly non-existent agro-processing industry, which could otherwise play a transformative role in absorbing surplus agricultural produce. Value addition through processing, packaging, and transformation into juices, pickles, dried fruits,

or frozen vegetables would not only stabilize prices by removing excess from fresh markets but also extend shelf life and create new revenue streams. At present, post-harvest losses for fruits and vegetables hover between 20 and 30 percent, representing billions of rupees in wasted potential every year. Without modern processing facilities, cold storage chains, or efficient logistics, surplus produce simply perishes or sells at distress prices. This gap also deprives rural economies of much-needed employment opportunities. Agro-processing units could generate jobs in sorting, grading, packaging, and distribution, particularly for unskilled and illiterate youth who constitute a large share of the rural labor force. Instead, the absence of such industries leaves young people with few options beyond traditional farming or urban migration, both of which strain family resources and social cohesion.

The government must therefore anticipate the continued shrinking of agricultural farm sizes alongside the rapid growth of livestock smallholders, a parallel trend evident in the census data showing livestock populations expanding significantly. Policy frameworks need to evolve proactively rather than reactively if agriculture is to serve as a key engine of economic growth. A supportive environment would include targeted incentives for cooperative farming models that allow smallholders to pool resources for mechanization and marketing without losing individual ownership. Investment in research and extension services tailored to high-value crops on tiny plots could introduce climate-resilient varieties and efficient irrigation techniques suited to fragmented holdings. Equally important is strengthening compliance with international sanitary and phytosanitary standards through capacity building at regulatory institutions, ensuring that exports meet global benchmarks and open doors to premium markets in Europe, the Middle East, and beyond. Developing agro-processing zones near production centers, complete with cold storage and value-addition facilities, would absorb surpluses, reduce waste, and create rural jobs. Public-private partnerships could accelerate this by providing financing and technical expertise to local entrepreneurs.

Such measures would enable the sector to generate large-scale employment for illiterate and unskilled rural youth, a demographic bulge that otherwise risks fueling social instability. With population growth continuing at its current pace, millions of young people enter the labor market each



year with limited education or skills. Agriculture, if modernized and diversified, can absorb many of them through expanded horticulture, livestock rearing, and processing activities rather than pushing them toward overcrowded cities or idle frustration. Stable rural incomes would reduce migration pressures, strengthen household resilience, and mitigate risks of unrest arising from economic marginalization. Livestock smallholders, in particular, deserve focused support through breed improvement programs, veterinary services, and market linkages, as animal husbandry often thrives on even smaller land bases and complements crop farming.

Ultimately, the future of Pakistan's agriculture hinges on recognizing that fragmentation is not a temporary phase but a lasting reality driven by demographic forces. Ignoring this trend will only deepen rural poverty and undermine national food security. By contrast, a forward-looking policy approach that embraces smaller farm sizes as the new normal can unlock productivity gains, foster inclusive growth, and harness the sector's potential to drive broader economic development. Through coordinated investments in infrastructure, regulation, and human capital, the government can transform what appears as a crisis of shrinking plots into an opportunity for sustainable, employment-rich agriculture. The 7th Agricultural Census of Pakistan 2024 serves as both a warning and a roadmap. It reveals the scale of change already underway and underscores the urgency of action before fragmentation erodes the sector's capacity to support a growing nation. With thoughtful intervention, Pakistan's farms, though smaller, can still feed the country and empower its people, turning demographic pressure into a catalyst for rural renaissance rather than a source of perpetual decline. ■



Wali Khan

RANKED AMONG FINALISTS IN THE

2026 DUTCH BRAIN BEE OLYMPIAD!

TALENTED BRAINS

TEAM TECHNOBIZ



Wali Khan, a 16-year-old Pakistani-Dutch International Baccalaureate student of DP1 has received the honor of being ranked as one of the Top 4 finalists in the Dutch Brain Bee Olympiad, held at the state-of-the-art and futuristic Netherlands Institute for Neuroscience (NIN) in Amsterdam on 21st March 2026.

The Brain Bee Olympiad is a globally connected annual initiative held across more than 50 countries worldwide and aims to bring together high school students keen on learning more about the human brain. The Olympiad offers an insightful and engaging introduction to the field of neuroscience, and is dedicated to inspiring the next generation of neuroscientists who may one day help find new cures for neurological disorders.

At the National Level, one of the key goals of the Brain Bee is to short-list finalists after a rigorous series of competitive rounds consisting of questions from the field of (Computational) Neuroscience & AI, Brain Anatomy, and clinical-style patient diagnosis of brain diseases. The

short-listed finalists from the first 3 rounds then go on to compete in the final round of an exciting, live Q&A session with leading neuroscientists!

In The Netherlands, the National Dutch Brain Bee was held during the Brain Awareness Week, and brought together students from all across the country in an engaging and intellectually charged environment, designed to test not only knowledge and critical thinking, but also to encourage high school students to play a more active role in advancing the field of Neuroscience. In addition to the competitive rounds, there were many more fun activities, ranging from participating in brain games and live brain dissection, to networking with leading neuroscientists and attending the Keynote Speaker session on ground-breaking developments in brain cancer research.

As one of the lead finalists, Wali's achievement reflects not only academic excellence, but also his passion for understanding more about the complex mysteries of the human brain. Wali's journey is a powerful reminder that the future of neuroscience is already taking shape—in classrooms, competitions, and the minds of students ready to push the boundaries of discovery!

Looking ahead, all 4 national finalists are privileged to have received an invitation to participate in the upcoming Dutch Neuroscience Conference in Tiel, Netherlands on 25-26 June 2026. This will serve as a further amazing opportunity for these young, ambitious students to interact with leading Neuroscientists and continue to expand their horizons. Wali Khan is studying Life & Physical Sciences, combined with Higher Level Mathematics in his IB program, after which he plans to pursue a degree in Neuroscience.

Wali's curiosity and passion in unraveling the mysteries of the human brain has inspired him to design a platform through which he will share his brain-knowledge in fun, interactive ways with the young, curious minds at his school and local community.

Beyond academics, Wali is a nature-enthusiast who likes to spend his free time backpacking with friends. He finds great solace in playing the piano and is very passionate about football. Wali currently plays for the ASV Arsenal Football Club in Amsterdam. ■



How Bilingual Homes AFFECT CHILDREN'S SPEECH DEVELOPMENT

PART 2

After understanding how bilingual children reach speech and language milestones, it's important to look at some normal variations in development that often worry parents—but are actually a natural part of growing up with two languages.

NORMAL VARIATIONS (NOT DISORDERS)

Even on track, bilingual children can show some quirks that might look like “delays” but aren't disorders. For example, **code-mixing** as mentioned is typical. It might seem confusing, but remember: when kids say things like “I want jugo, por favor,” they're just grabbing words they know. This mixing is a healthy sign that they can juggle two language systems. You don't need to correct it – instead, respond naturally in the language you're using.

You might also notice your child has a much bigger vocabulary in one language. That's okay. Often one language (like the one used at home) is stronger early on, while the “out-

BILINGUAL CHILDREN MAY MIX LANGUAGES OR DEVELOP UNEVEN VOCABULARIES, WHICH IS NORMAL. SUPPORT THEM THROUGH TALKING, READING, AND PLAY. WITH TIME, THEY CATCH UP—BILINGUALISM STRENGTHENS SKILLS, CULTURE, AND LIFELONG LEARNING.



side” language grows later. Experts call the combined understanding the child has in both languages their **conceptual vocabulary**. When counted that way, bilingual kids usually match monolingual peers. So even if Johnny has only 30 English words but 40 Spanish words at age 2 (total 70 concepts), he's not behind; he's learning 70 words like a monolingual 2-year-old might in one language.

Sometimes parents hear that bilingual toddlers are “slower” because each language progresses a bit separately. It's true that a bilingual child might reach, say, “two-word sentences” a few weeks later in each individual language than a monolingual child would in one. But this slight gap typically disappears as time goes on. Overall, studies show bilingual children are **no more likely** than monolinguals to have true language disorders or permanent delays. In fact, just about the same percentage of bilingual kids will need speech support as monolinguals – the difference is in whether we can tell the variation from a real problem.

If you do have ongoing concerns (for example, if your 3-year-old isn't speaking much in either language, or isn't understood by close family), it's fine to check with a pediatrician or speech-language

pathologist. But make sure it's someone knowledgeable about bilingual children. Misdiagnosis can happen if providers only listen in one language – bilingual kids can sound “late” if only one language is tested. A good bilingual SLP will evaluate both languages and compare to bilingual norms.

warmly no matter which language they use. For example, it's fine if Mom says everything in English and Dad in Spanish; your child will learn to separate them. Or if you switch mid-sentence because you only know a certain phrase in one language, that's okay too – it models code-switching,



In most cases, however, bilingualism itself is not the cause of the delay.

a real skill.

Encourage your child, celebrate each new word, and be patient. Remember that **bilingual children do develop language abilities on a very similar timetable to monolingual children**, even if sometimes it feels a bit slower (it usually evens out quickly). Try not to scold them for mixing or “getting the words wrong” – these are just growing pains.

If there ever is a concern about a true speech delay (for instance, little understood speech well beyond age 3 in both languages, or lack of two-word combinations by age 3), a qualified pediatric SLP can help. They often suggest continuing both languages and focusing on plenty of practice in fun ways (lots of books, play, and conversation) rather than dropping a language. And remember, when experts in bilingual development weigh in, they consistently say: **children are ready to learn multiple languages without harm**. In fact, bilingualism is often a gift: it strengthens family bonds, cultural identity and even offers cognitive benefits down the road.

Above all, trust your instincts and enjoy the journey. Your child hearing you speak your native tongue is a precious link to family and culture. By talking and laughing together in **all** your languages, you're giving your child a wonderful head start. Keep it fun, keep it rich with words and stories, and smile when you hear them switch between “doggy” and “perro” – they're learning to fly with two wings, and what a beautiful flight it will be!

SUPPORTING YOUR CHILD'S BILINGUAL SKILLS

Knowing these facts can help you feel confident and focus on what really matters: helping your child learn. The most powerful things you can do are actually simple: **talk, read, and play** in each language every day. Yes, that means narrating your day with your toddler: describe that sandwich you're making (“I spread peanut butter on the bread. Now we add jelly.” / “Yo pongo mantequilla de maní en el pan. Ahora agrego mermelada.”) or point out letters and colors while getting dressed. Making conversation part of everyday routines gives your child a ton of rich input.

Reading is magic, too. Snuggle up with books in both languages. Bedtime story sessions are not only cozy; they teach words and sentence patterns. Visit the library for bilingual kids' books or audiobooks in your home language. Even if you're not a confident reader, you can talk about the pictures or have a parent read while you explain the same story in your other language. The key is consistency – little and often is great. Singing songs, playing word games, and telling family stories (in each language) all build skills over time.

You don't have to enforce strict “one person, one language” unless you want to. Some families do and it works well; others mix languages freely at home. The most important thing is that each language is heard often by your child, and you respond

Fueling Crisis:

How War-Driven Petroleum Prices Are Reshaping the Global and Pakistani Economy

Pakistan's emergence as a consequential geopolitical actor is rooted in a combination of geography, strategic adaptation, restraint, geographic relevance and calibrated diplomacy in an increasingly fragmented global order and highly volatile region. Situated at the crossroads of South Asia, Central Asia, and the Middle East, Pakistan remains central to Old silk route, global energy flows and regional stability, particularly given its proximity to the Strait of Hormuz and its connectivity through the CPEC, formalized under the framework of the Belt and Road Initiative.



ARSHED IQBAL

OUR STRATEGIC LOCATION, NUCLEAR CAPABILITIES, AND BALANCED DIPLOMACY MAKE US A KEY PLAYER IN REGIONAL STABILITY. IT NAVIGATES INDIA RIVALRY, ENGAGES WITH GLOBAL POWERS, AND MAINTAINS INTERNAL COHESION, POSITIONING ITSELF AS A RESPONSIBLE GLOBAL STAKEHOLDER.

A key driver of Pakistan's strategic evolution has been its long-standing rivalry with India. This competition has compelled Pakistan to develop credible deterrence across multiple domains, including missile systems, air defence, and increasingly integrated drone and surveillance capabilities.



Over the past two decades, Pakistan has translated its geostrategic location into policy relevance through active engagement in international coalitions and agreements. Its role in the post 9/11 regional security framework, cooperation under IMF stabilization programs, and participation in multilateral forums such as the Shanghai Cooperation Organisation (SCO) have positioned it as a state capable of engaging across competing blocs. Official communiqués from Pakistan's Foreign Office in recent years consistently emphasize "regional peace, non-interference, and economic connectivity" as guiding principles.

Pakistan's status as the only Muslim nuclear power further strengthens its strategic profile. This capability, governed under a declared policy of credible minimum deterrence, has been repeatedly reaffirmed in official National Command Authority statements. Alongside this, Pakistan's armed forces particularly its air force have

demonstrated operational readiness, most notably during the February 2019 crisis with India, where aerial engagements and subsequent military briefings signalled deterrence without escalation. The incident, followed by Pakistan's decision to return the captured Indian pilot as a "peace gesture," was formally communicated through both military and diplomatic channels, earning international acknowledgment.

Defence cooperation agreements, particularly with Iron clad trusted all season friend China, have contributed to Pakistan's modernization in areas such as joint aircraft development, missile systems, and surveillance technologies. The induction of platforms like the JF-17 under joint production agreements reflects a broader strategy of self-reliance combined with strategic partnerships. At the same time, Pakistan has maintained longstanding defence cooperation frameworks with Gulf states, including joint exercises and securi-





ty agreements with Saudi Arabia.

At the same time, regional dynamics have undergone significant transformation. India's gradual alignment with the United States defence agreements such as COMCASA and BECA its participation in U.S led groupings such as the Quad reflects a shift that has implications for regional balance and its expanding engagement with Israel in defence and technology sectors and PM Modi's visit to Tel Abib at cost of its decades old posture with Palestinian movement perhaps to please its formidable Muslim minority signal a departure from its traditional non-aligned posture. While this shift reflects India's aspirations as a global actor, it also introduces complexities in its relations with Russia and China, and carries implications for regional stability. Strategic alignments, when perceived as bloc-based, risk deepening divisions rather than fostering cooperative security frameworks.

Pakistan's foreign policy, by comparison, has emphasized balance and de-escalation. This was evident during recent Middle Eastern tensions, where Pakistan's Foreign Office issued statements condemning violations of sovereignty and calling for adherence to international law, while simultaneously maintaining diplomatic engagement with the United States,

Iran, and Gulf partners. High level visits and backchannel communications during these periods underscored Pakistan's role in advocating restraint and preventing wider conflict.

Pakistan's relationship with Iran illustrates the nuance of its diplomacy. Despite historical complexities and periods of tension, Pakistan has consistently avoided escalation and has, at critical moments, reflecting a preference for containment rather than escalation. Allegations of espionage and proxy activity in the region, including the widely publicized arrest of Kulbhushan Jadhav in 2016, were formally presented by Pakistan through dossiers and briefings to international stakeholders, reinforcing its narrative on regional security challenges.

Pakistan's recent foreign policy approach has been notably measured. It has sought to maintain constructive relations with major global and regional powers—including the United States, China, Saudi Arabia, Qatar, Turkey, and others—while avoiding direct entanglement in external conflicts. This balancing strategy has allowed Pakistan to preserve strategic autonomy and avoid being drawn into polarized global alignments.

Equally important is Pakistan's internal equilibrium. As a country with both

Sunni and Shia populations, it has largely maintained sectarian balance despite regional upheavals. This internal cohesion strengthens its external credibility, particularly when engaging in issues affecting the broader Muslim world.

In recent diplomatic engagements, Pakistan has actively communicated with major global capitals including Washington, Beijing, Moscow, Riyadh, Ankara, and others through continuous high-level exchanges. These interactions, often reflected in joint communiqués, highlight Pakistan's willingness to facilitate dialogue, ensure energy security, and advocate peaceful conflict resolution without direct material gain.

In an era defined by shifting alliances and contested norms, Pakistan's emergence lies in its ability to maintain equilibrium. Through a combination of credible deterrence, active diplomacy, and adherence to international frameworks, it is positioning itself not merely as a regional player, but as a responsible stakeholder in global stability. ■

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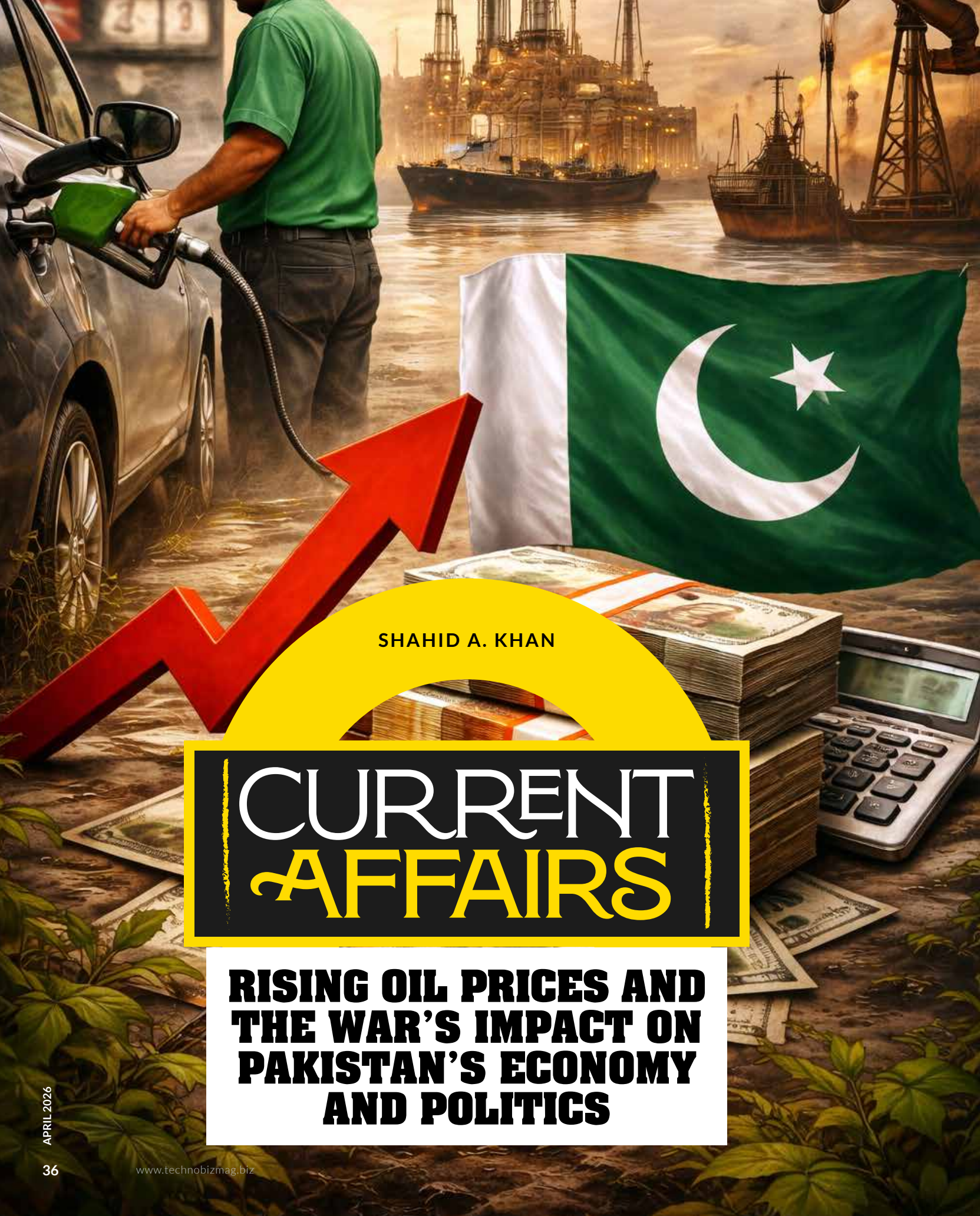
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SHAHID A. KHAN

CURRENT AFFAIRS

RIISING OIL PRICES AND THE WAR'S IMPACT ON PAKISTAN'S ECONOMY AND POLITICS



RIISING GLOBAL OIL PRICES DUE TO MIDDLE EAST TENSIONS ARE STRAINING PAKISTAN'S ECONOMY, DRIVING INFLATION, INCREASING FUEL AND ELECTRICITY COSTS, PRESSURING FOREIGN RESERVES, AND HIGHLIGHTING THE URGENT NEED FOR ENERGY DIVERSIFICATION AND ECONOMIC RESILIENCE.

Pakistan is facing one of the most challenging economic periods in recent years as global oil markets react to the ongoing war in the Middle East. The conflict involving Iran, the United States, and Israel has disrupted energy flows worldwide and driven crude oil prices to levels not seen in years. This surge in oil prices has triggered a ripple effect across Pakistan's economy, affecting inflation, household expenses, trade, and political debates.

Oil lies at the heart of Pakistan's current economic difficulties. The country imports nearly all of its crude oil and fuel, with the majority passing through the Strait of Hormuz, one of the world's most important maritime chokepoints. The recent instability in the region has slowed shipping and increased global energy costs. Crude oil benchmarks such as Brent have climbed above one hundred dollars per barrel, briefly touching one hundred twenty dollars in some markets. Since oil and fuel are core inputs for transportation, electricity generation, industry, and agriculture, rising costs immediately feed into higher prices for goods and services, pushing up household expenses and creating broad economic pressure.

The impact of higher energy costs is visible in everyday life. Fuel prices have risen sharply, making travel and transportation more expensive for families and

businesses alike. Public transport fares have increased, goods in markets cost more due to higher transportation expenses, and electricity bills have also gone up as fuel prices affect power generation. Many households now find that their budgets, which once covered food, transport, and essential services comfortably, are becoming increasingly strained. During religious periods such as Ramadan, when food prices traditionally rise, these pressures are even more pronounced.

Pakistan's heavy reliance on imported fuel has also put pressure on foreign exchange reserves. The country must spend more in foreign currency to secure fuel supplies, which affects the balance of payments and limits government flexibility in stabilizing the economy. Businesses and economic experts have warned that continued disruption of oil flows could worsen existing vulnerabilities and lead to deeper financial challenges. The cost of energy affects almost every sector, including aviation, shipping, manufacturing, and agriculture, amplifying inflation and reducing the purchasing power of ordinary citizens.

The government has responded with fuel price adjustments and efforts to manage energy consumption, but these measures carry political risks. Price increases are deeply unpopular and often spark criticism from citizens and opposition parties. The current crisis has also intensified debates about policy decisions versus external pressures, with critics highlighting that some price rises may stem from domestic choices influenced by international lenders rather than solely the war.

The economic strain also has political consequences. Rising prices and cost-of-living pressures increase public scrutiny of government performance. Pakistan has simultaneously sought to play a diplomatic role in the conflict, offering to facilitate peace talks between the warring parties. While this effort positions the country as a potential mediator, it also comes with political risks, as citizens and politicians assess whether the government is effectively balancing international diplomacy with managing domestic economic challenges.

Analysts warn that persistent high energy costs could slow economic growth, constrain investment, and limit recovery from previous downturns. Pakistan's challenges are also part of a broader global pattern, as other developing economies face rising energy prices and inflation due to the same conflict. For everyday citizens, the consequences are tangible: higher transport costs, more expensive goods, increasing electricity bills, and shrinking real incomes for many workers. For policymakers, the crisis highlights the urgent need to diversify energy sources, strengthen fiscal buffers, and pursue diplomatic solutions to regional conflicts.

In conclusion, the war-driven oil shock demonstrates how global geopolitics can reach directly into the lives of ordinary Pakistanis. The rising cost of living, coupled with political and economic pressures, underscores the importance of economic resilience, sound fiscal policy, and diplomatic efforts aimed at stabilizing both the national economy and regional security.

5G IN PAKISTAN; FROM FRUSTRATION TO FAST CONNECTIVITY

PAKISTAN'S 5G ROLLOUT MARKS A MAJOR LEAP IN CONNECTIVITY, PROMISING FASTER SPEEDS, IMPROVED RELIABILITY, AND ECONOMIC GROWTH, WHILE GRADUALLY REDUCING NETWORK ISSUES AND ENABLING ADVANCED DIGITAL SERVICES NATIONWIDE.

Pakistan's mobile connectivity has long been a source of frustration for many. People frequently encounter situations where a simple message arrives late because "sorry, my internet wasn't working," or a shopkeeper says, "ma'am, the card machine won't work today, internet is down, so only cash please." In a country with over 200 million mobile subscribers, unreliable signals and slow speeds have disrupted daily life, business transactions, ed-

ucation, and even emergency communications. These issues stem from limited spectrum availability and heavy network congestion on existing 4G infrastructure. However, a major shift is now underway with the introduction of 5G technology, promising to address many of these longstanding problems.

In early March 2026, the Pakistan Telecommunication Authority (PTA) successfully concluded a long-awaited spectrum auction for next-generation mobile services. On March 10, the auction sold 480 MHz of spectrum across multiple bands for approximately \$507 million, with the total revenue reaching about \$510 million after a subsequent position assignment phase. This amount, equivalent to roughly 142 billion Pakistani rupees, has provided a significant boost to the national exchequer. The auction involved three major operators: Jazz, Zong, and Ufone. Jazz emerged as the largest acquirer, securing 190 MHz across key bands including 700 MHz, 2300 MHz, 2600 MHz, and 3500 MHz. Ufone obtained around 180 MHz, primarily in the 3500 MHz band, which is considered ideal for high-speed 5G. Zong picked up 110 MHz, focused on the 2600 MHz and



went even further, activating services in over 16 cities, covering key urban centers like Islamabad, Rawalpindi, Karachi, Lahore, Peshawar, and Quetta, with plans to deploy and upgrade more than 1,000 5G sites throughout the year. Ufone followed shortly after, beginning its rollout in selected areas.

This phased approach is deliberate. Operators are starting in densely populated urban hubs to manage demand and infrastructure demands effectively. The government has indicated that within six to eight months, 5G should become widely available in federal and provincial capitals, with gradual expansion to other regions. The recent spectrum allocation has already begun alleviating pressure on 4G networks, leading to noticeable improvements in existing speeds and reliability even before full 5G adoption.

What makes 5G transformative goes beyond just faster downloads. Compared to 4G, 5G offers significantly higher speeds—potentially ten times or more—ultra-low latency for real-time applications, and the capacity to connect millions of devices simultaneously. In Pakistan, where average mobile internet speeds have lagged behind regional peers, initial 5G experiences are delivering download rates starting from 50 Mbps and higher in covered areas, with much lower ping times ideal for video calls, online gaming, and streaming. The 3500 MHz band provides excellent speed-capacity balance in cities, while lower bands like 700 MHz offer better coverage for broader reach. This upgrade not only enhances personal use but also enables advanced applications such as augmented reality, remote healthcare

consultations, smart traffic systems, and industrial IoT.

The economic implications are substantial. Faster, more reliable connectivity will accelerate e-commerce growth, enable seamless remote work and online education, and attract foreign investment in IT and digital services. Pakistan's IT exports could see a major uplift as businesses leverage low-latency networks for global collaboration. Smart city initiatives in places like Lahore and Karachi become more feasible, improving public services through connected sensors for traffic, waste management, and security. In healthcare, telemedicine can reach remote areas more effectively, while education platforms deliver high-quality virtual learning without interruptions. Overall, 5G positions Pakistan to close the digital divide and compete better on the global stage.

Of course, challenges remain. Widespread 5G adoption requires compatible devices, and fortunately, around 75 percent of Pakistani users already own or can access 5G-capable phones, with affordable local and imported options starting below 30,000 rupees. Infrastructure expansion is another hurdle—5G, especially in higher bands, needs denser tower networks due to shorter range, demanding heavy investment from operators amid power outages and regulatory hurdles. The government and PTA are addressing these by encouraging phased deployment and supporting infrastructure sharing. Initial focus on major cities like those in Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan capitals ensures manageable rollout, with plans to extend to smaller towns over time.

As of late March 2026, 5G is no longer a distant promise in Pakistan—it is a reality unfolding right now. Users in covered areas can already experience the difference, with the iconic 5G icon appearing on their phones and speeds transforming everyday tasks. The frustrations of dropped calls, buffering videos, and failed online payments are gradually fading in these zones. This launch, after over a decade of anticipation, represents more than a technological upgrade; it is a gateway to a digitally empowered future. With continued collaboration between the government, regulator, and telecom companies, Pakistan stands on the cusp of a new era where connectivity drives progress, innovation, and opportunity for every citizen. The journey has just begun, but the direction is clear: toward a faster, more connected, and brighter tomorrow.



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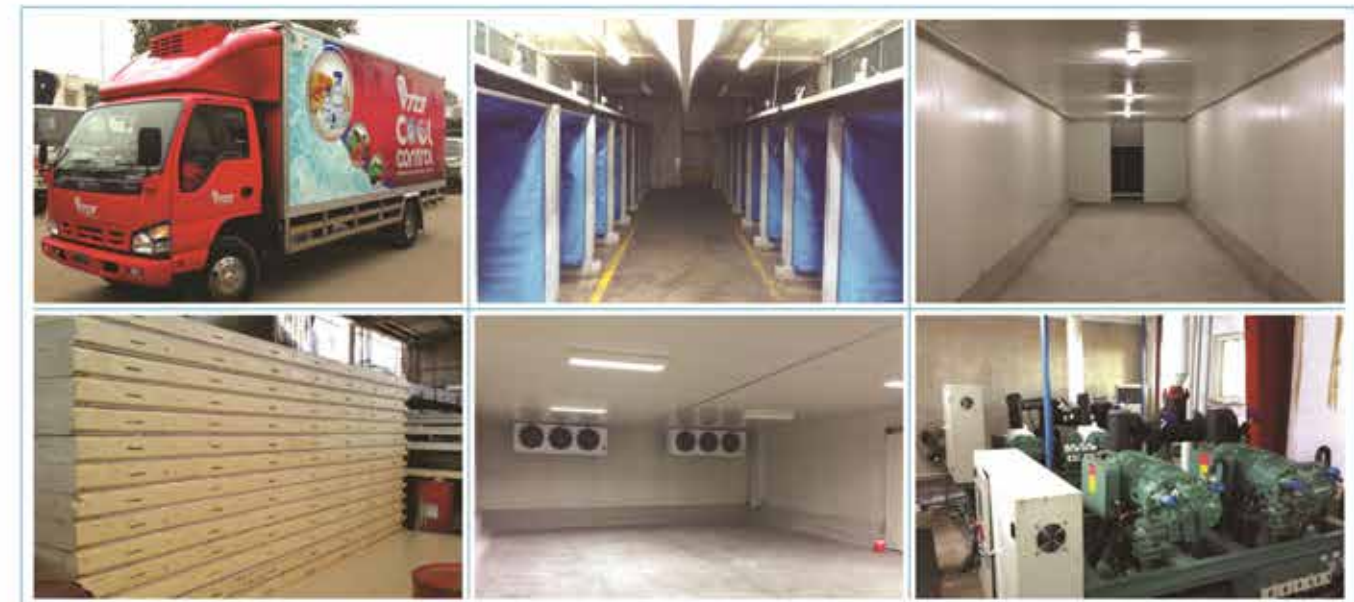


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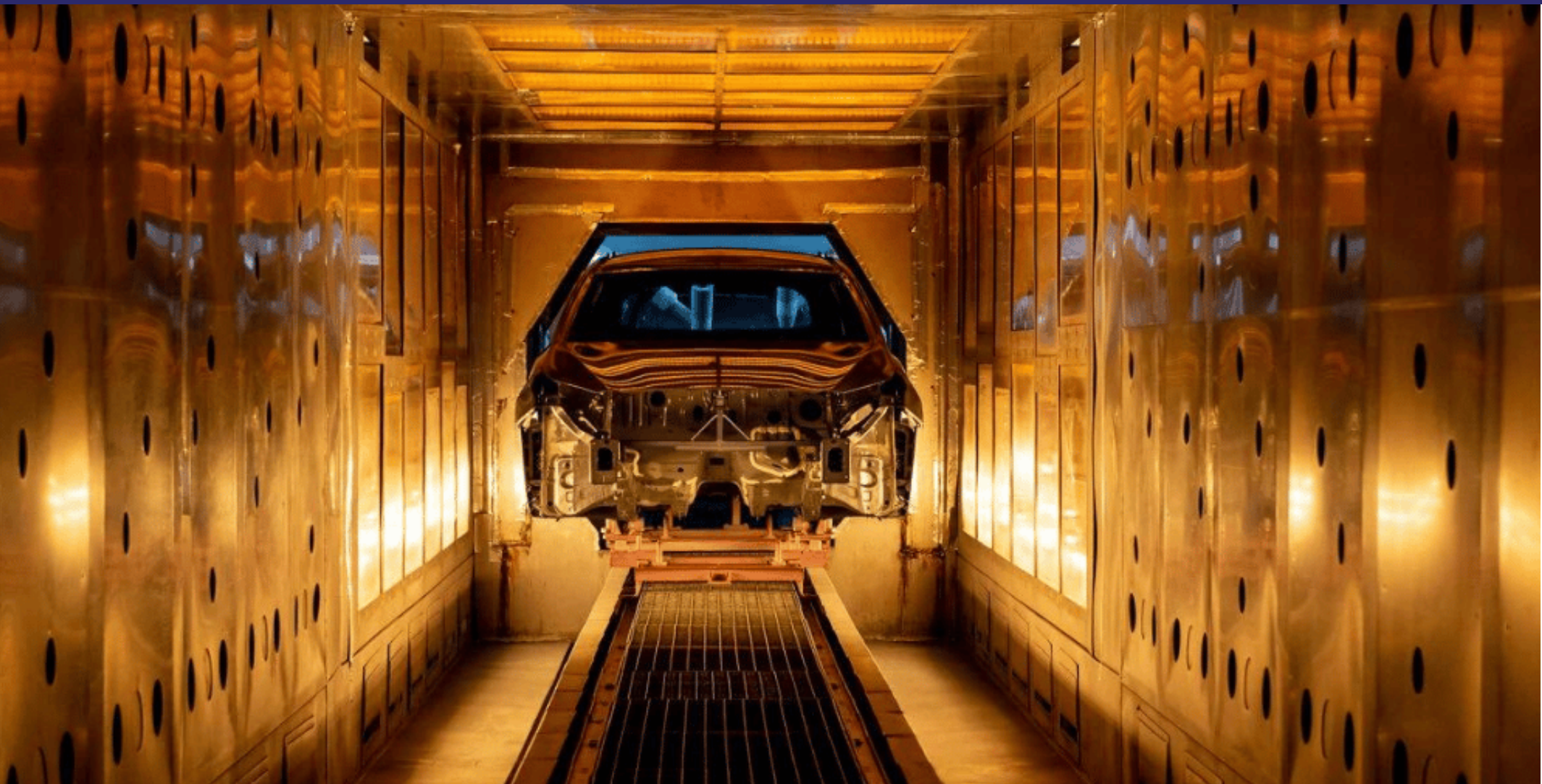
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Amid the snow-capped mountains of northern Slovakia, a massive factory stands as a beacon of modern industry, where cutting-edge technology meets human determination to bring cars to life. Nestled near the city of Žilina in the region of Teplice nad Váhom, this sprawling complex belongs to the Korean automaker Kia, marking the company's first and only manufacturing facility in Europe. Established in 2004 with production starting in 2007, the plant represents a landmark investment originally valued at around 1 billion euros, though expansions and upgrades have pushed total commitments much higher over the years. Today, it stands as a symbol of how a small Central European nation has transformed itself into a global powerhouse in car production.



ONE CAR EVERY MINUTE: THE STORY OF HUMAN HANDS AND ROBOTS AT KIA SLOVAKIA

KIA'S SLOVAKIA PLANT BLENDS ROBOTICS AND HUMAN SKILL TO PRODUCE A CAR EVERY MINUTE, DRIVING REGIONAL GROWTH, EMPLOYMENT, AND INNOVATION WHILE TRANSITIONING TOWARD ELECTRIC VEHICLES AND MAINTAINING FLEXIBILITY IN EUROPE'S EVOLVING AUTOMOTIVE LANDSCAPE.

The journey of a car begins in the press shop, where massive machines stamp steel sheets into precise shapes. From there, robotic arms take over in the body shop, where approximately 690 advanced robots weld the frames together with remarkable precision and speed. These tireless machines operate around the clock, handling the heavy, repetitive tasks that demand consistency and strength. The metallic skeletons emerge gleaming under bright lights, ready for the next phase. Yet the real heartbeat of the factory lies in the assembly line that stretches for 7.5 kilometers, where human workers step in to infuse these structures with functionality and finesse.

Every minute, a new vehicle rolls off the line, its headlights flickering to life as if awakening to the world. Workers dressed in red trousers and white T-shirts swarm the cars, installing interiors, wiring electrical systems, fitting doors with insulation, attaching wheels, and conducting final checks. The symphony of tools, conveyor

belts, and coordinated movements creates an atmosphere of controlled energy. The plant produces up to 350,000 vehicles annually, along with around 540,000 engines from its on-site powertrain facilities. Models rolling out include the popular Ceed family in various forms—Ceed, Ceed Sportswagon, ProCeed, XCeed—and the rugged Sportage, including hybrid and mild-hybrid variants. Recently, the facility has begun transitioning to electric vehicles, with the first battery electric models like the EV4 starting production in 2025, supported by targeted investments of about 108 million euros to adapt lines for EVs such as the upcoming EV2 and others.

Behind the machines and the steady output are the people who make it all possible. More than 3,800 employees, almost all local Slovaks, form the backbone of the operation. Only a handful of senior managers hail from Korea, living in a secured residential area a short distance away. The workforce reflects a blend of experience



and youth, drawn by stable jobs in a region that once faced higher unemployment. One such worker is 48-year-old Marcel Pukhon, whose passion for cars dates back to his childhood. Having spent years living in Northern Ireland and England, he returned to his homeland specifically to join Kia. For him, being part of the team that builds these vehicles fulfills a lifelong dream. He speaks with evident pride about contributing to something tangible and innovative, where his daily efforts help create products exported across Europe.

In another section of the factory, focused on door insulation and interior finishing, 23-year-old Simona Krnová embodies a different but equally compelling story. Half her family works at the plant, so joining felt like a natural step. She appreciates the camaraderie among colleagues and the sense of belonging in a tight-knit team. Her monthly salary of around 1,300 euros, while not extravagant by Western European standards, stands out as competitive locally and provides financial security. Simona takes pride in Slovakia's role as a major car producer, knowing her work contributes to vehicles that reach markets in Britain, Spain, Italy, Germany, and beyond. These personal narratives highlight how the factory is more than a production site; it is a place where individual aspirations intersect with industrial ambition.

Kia's presence has profoundly shaped the local economy. The mayor of Žilina has credited the plant with dramatically reducing unemployment and boosting the region's economic strength. Directly and through its supply chain, Kia supports over

20,000 jobs. Nearly 360 supplier companies in Slovakia provide components, creating a robust automotive ecosystem. This network benefits from the country's central location in Europe, offering efficient access to major markets. Chief Executive Mark Hedrich has emphasized Slovakia's position at the heart of the continent, connected seamlessly to key demand centers. Low-carbon energy sources, including a growing share of renewables and nuclear power, further enhance appeal, making vehicles produced here eligible for government incentives in places like Britain for electric models.

The Slovak government has supported such investments through incentives, though specifics on initial subsidies remain undisclosed. For the shift to electric vehicle production, Kia received tax breaks worth about 29 million euros on a project costing over 100 million euros. These policies reflect a strategic bet that attracting global automakers drives broad economic gains, from job creation to technology transfer and export revenue. Slovakia's educated workforce plays a crucial role too. Technical schools in Žilina partner with Kia on training programs, where around 100 students combine studies with hands-on factory experience each year. Universities graduate roughly 400 students annually who find employment in the automotive sector, ensuring a steady pipeline of skilled talent.

This success story extends beyond Kia. Slovakia has become Europe's per-capita leader in car production, churning out nearly a million vehicles yearly despite

a population of just over five million. Neighboring countries have followed suit. In the Czech Republic, Hyundai, Toyota, and Volkswagen operate plants; Poland hosts Toyota, Stellantis, and Volkswagen; Hungary attracts Audi, Mercedes-Benz, and Suzuki; Romania draws Ford and Renault; and Serbia has Ford facilities. These investments stem from competitive wages, industrial heritage, and a well-trained labor force in the former Eastern Bloc nations now integrated into the European Union.

Yet challenges persist. Recent slowdowns in Europe's electric vehicle market have led to adjusted production schedules at Žilina, with shorter workweeks for some employees amid softer demand. The transition to EVs requires ongoing adaptation, from retraining workers to upgrading infrastructure. Still, the plant's flexibility—



capable of building up to eight models on the same line—positions it well for shifting consumer preferences.

In the end, the Kia factory near Žilina tells a larger tale of transformation. Snow-covered peaks overlook a place where robots and humans collaborate to produce not just cars, but opportunities, pride, and progress. From the initial welding sparks to the final rollout under glowing headlights, each vehicle carries the imprint of countless hands and dreams. Slovakia's automotive rise demonstrates how strategic location, supportive policies, skilled people, and bold investments can turn a modest nation into a vital player in the global industry. As electric models increasingly dominate the lines, the factory continues evolving, ready to drive the future of mobility from the heart of Europe.



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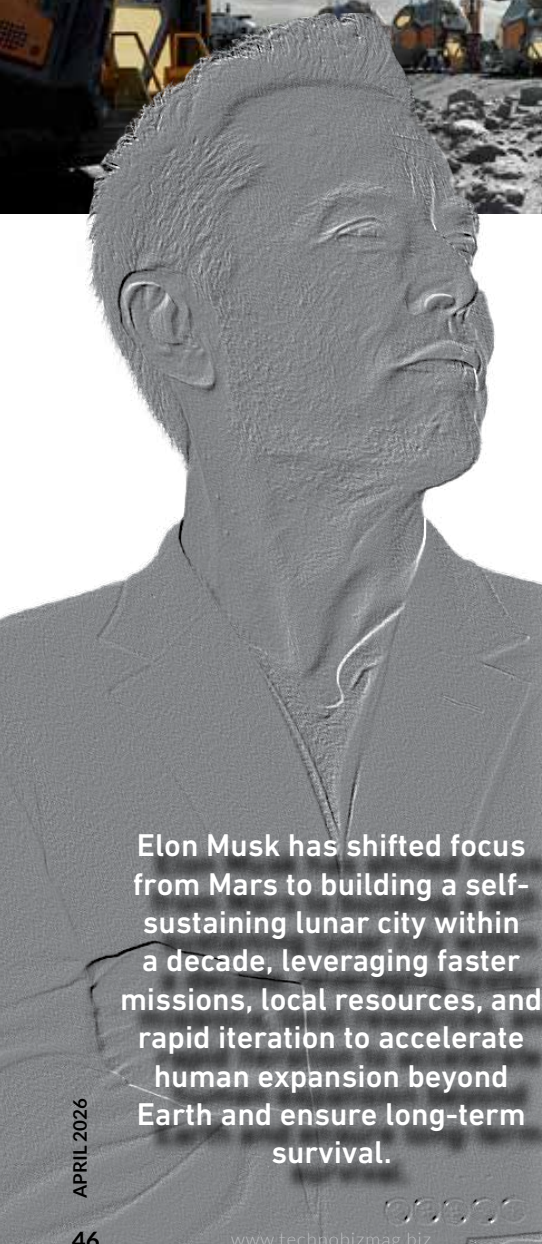
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ELON MUSK'S SELF-SUSTAINING CITY ON THE MOON IN 10 YEARS



Elon Musk has shifted focus from Mars to building a self-sustaining lunar city within a decade, leveraging faster missions, local resources, and rapid iteration to accelerate human expansion beyond Earth and ensure long-term survival.

Elon Musk has once again reshaped the conversation around humanity's future in space, this time with a surprising shift in focus. Instead of prioritizing Mars as the first destination for a self-sustaining human settlement, Musk now envisions a fully functional city on the Moon within the next decade. This bold idea, shared on his social platform X, signals a major strategic pivot for SpaceX and reframes the timeline of becoming a multi-planetary species.

For years, Mars stood at the center of Musk's long-term ambitions. He often described it as humanity's backup planet, a place where civilization could survive if Earth ever faced a catastrophic event. However, recent insights into logistics, engineering constraints, and timelines have led to a more pragmatic approach. According to Musk, the Moon offers a far more achievable path in the near term, allowing SpaceX to build, test, and refine systems at a much faster pace.

The difference largely comes down to

distance and timing. Missions to the Moon are relatively short, taking only a couple of days, and launch opportunities arise frequently. In contrast, trips to Mars require waiting for specific planetary alignments that occur roughly every two years, with travel times stretching to six months each way. This gap significantly slows down experimentation and iteration. On the Moon, engineers can send equipment, analyze results, and make improvements in rapid cycles, accelerating progress in ways that Mars simply cannot match right now.

Musk emphasizes that speed of iteration is critical. Building a self-sustaining city is not just about sending people and supplies; it requires constant problem-solving and adaptation. Systems for life support, construction, energy, and food production must all function reliably in a harsh environment. The Moon provides a testing ground where failures can be addressed quickly, reducing risk and increasing the chances of long-term success.

At the heart of this vision is the concept of a "self-growing" city. Rather than relying entirely on supplies from Earth, the settlement would use local resources to expand and sustain itself. Lunar soil, or regolith, contains valuable materials such as oxygen, metals, and silicon. Advanced

robotics and automated factories could process these materials into building components, creating habitats, infrastructure, and tools directly on the Moon.

Water is another crucial resource. Scientists believe that significant amounts of ice exist in permanently shadowed craters near the lunar poles. This ice could be melted for drinking water, used to grow plants, and even split into hydrogen and oxygen to produce rocket fuel. Combined with solar energy harvested from regions that receive near-constant sunlight, these resources could form the backbone of an independent ecosystem.

The transportation system enabling all of this is SpaceX's Starship, a fully reusable rocket designed to carry massive payloads. Each launch could deliver over 100 tons of cargo to the lunar surface, and the company aims to conduct these missions frequently. Early flights would likely be uncrewed, carrying robots, construction equipment, and basic living modules. Over time, these initial setups would evolve into more complex structures capable of supporting human life.

provide safe living and working spaces for astronauts.

Despite these obstacles, the Moon offers advantages that make it an ideal starting point. Communication with Earth is nearly instantaneous, allowing real-time control of robotic systems and seamless coordination. In emergencies, supplies or rescue missions could arrive within days, not months. These factors make the Moon a safer environment for developing the technologies needed for deeper space exploration.

Economically, a lunar city could open entirely new industries. It might serve as a hub for scientific research, resource extraction, and even tourism. Fuel produced from lunar ice could support missions to Mars and beyond, turning the Moon into a critical refueling station for the solar system. Innovations developed for this environment, such as advanced recycling systems and autonomous machinery, could also benefit life on Earth.

The global space community has responded with a mix of excitement and skepticism. Government programs like

ping stone. By establishing a successful city there, SpaceX can gain the experience and infrastructure needed to tackle the far greater challenge of building a Martian settlement. In this sense, the Moon becomes both a proving ground and a launchpad for humanity's broader expansion into space.

The timeline Musk proposes is ambitious, but not entirely out of reach. With rapid advancements in rocket technology, robotics, and materials science, the idea of humans living on the Moon within the next decade is becoming increasingly plausible. Early settlers would likely consist of engineers, scientists, and technicians, gradually building a community that could grow over time.

Beyond the technical and economic aspects, this vision carries profound philosophical implications. Establishing a permanent human presence beyond Earth would mark a turning point in our history. It would demonstrate that life can thrive outside its home planet, opening the door to a future where humanity is no longer confined to a single world.

There are still many unanswered questions. Issues of governance, environmental protection, and access will need to be addressed. Who will regulate activities on the Moon? How will resources be shared? What responsibilities do we have to preserve its natural state? These challenges will require international cooperation and careful planning.

Yet, despite the uncertainties, the momentum is undeniable. Musk's shift toward the Moon highlights a broader trend in space exploration: the move from distant dreams to actionable plans. What once seemed like science fiction is now entering the realm of engineering reality.

If successful, a self-sustaining lunar city could fundamentally change how we view our place in the universe. It would serve as proof that humanity can extend its reach beyond Earth, ensuring survival and opening new frontiers for discovery. More importantly, it would inspire future generations to continue pushing the boundaries of what is possible.

The Moon, long seen as a silent companion in the night sky, may soon become humanity's first true outpost in space. And if Musk's vision holds true, its surface could host the beginnings of a new chapter in human civilization, one built not just on exploration, but on permanence, resilience, and the drive to reach further than ever before.



Living conditions on the Moon will present unique challenges. The surface experiences extreme temperature fluctuations, lacks an atmosphere, and is constantly exposed to radiation. Fine lunar dust can damage equipment and pose health risks. To address these issues, early habitats may be built underground or covered with layers of regolith for protection. Inflatable modules and connected tunnels could

NASA's Artemis initiative are already working toward a sustained human presence on the Moon, while other countries and private companies are pursuing similar goals. This growing competition could accelerate progress, pushing technological boundaries and encouraging collaboration.

Importantly, Musk has not abandoned Mars. Instead, he sees the Moon as a step-

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Deep within the lush forests of Kahuta, a dedicated Sub-Divisional Forest Officer, Kashaf Amir, works tirelessly to preserve the delicate balance of the ecosystem. As a key player in the sustainable use and management of the forest, Kashaf's mission is to protect and conserve the forest's health, ensuring its vitality for generations to come. Kashaf's journey as a forest guardian is not without its challenges. From combating disease infestations to navigating the complexities of forest management, every day tests her skills, resilience, and ingenuity. Yet, despite these obstacles, Kashaf finds immense fulfillment in her work. "I love my job," she says with infectious enthusiasm. "I get to explore the wonders of nature every day, and that's a truly rewarding experience."

As a field-based officer, Kashaf spends most of her time immersed in the forest. Collaborating closely with her team, she identifies and addresses threats to the ecosystem. Her expertise in curtailing and removing disease infestations is crucial to maintaining the forest's health and vitality. Kashaf's passion for her work is evident in every aspect of her job. Guided by a profound respect for the natural world, she is committed to preserving its beauty and importance for future generations.

As a woman in a traditionally male-dominated field, Kashaf is also a role model for young women who aspire to careers in forestry and conservation. Her determination and dedication serve as a powerful reminder that with hard work and perseverance, barriers can be overcome, and meaningful change is possible.

Kashaf Amir's story is a testament

to the power of passion and commitment to making a difference in the world. As a guardian of the forests, she inspires others to join her in the vital work of protecting our planet's precious natural resources.

Sustainable forest management plays a vital role in maintaining the balance of our ecosystems. Forests are not just natural resources; they are lifelines for countless communities, especially women, who depend heavily on them for fuel, food, and income. Their dependence on forests is deeply tied to their everyday lives, making their involvement in sustainable forest management not just important, but essential. Yet, despite this connection, women are still underrepresented in the forestry sector—a gap that professionals like Kashaf Amir are working hard to bridge.

Kashaf Amir is a shining example of how women are making a mark in this critical field. Working in the lush forests of Kahuta, she's dedicated to preserving the delicate ecosystems that sustain both wildlife and communities. In her role within the Timber Extraction Division, Kashaf ensures that forests are managed responsibly, balancing the use of resources with the need to maintain their health and vitality.

But Kashaf's journey hasn't been without its hurdles. Entering a male-dominated field, she faced her share of skepticism and challenges. From proving her capabilities to navigating the logistical difficulties of working in remote areas, Kashaf has tackled it all with resilience. Her determination to succeed and her passion for conservation have not only helped her overcome these barriers but have also paved the way for other women to follow in her footsteps.

Kashaf's story is one of courage, perseverance, and a deep love for nature. She's not just protecting forests—she's inspiring others to join her mission, proving that women have an indispensable role in conservation. As she continues her work, Kashaf hopes to see more women step into leadership roles in forestry, bringing their unique perspectives and strengths to the sector.

SCI-FI/DARK

BUGONIA

A thought-provoking film blending black comedy, sci-fi, and psychological tension.

It follows a beekeeper's conspiracy-driven kidnapping of a pharmaceutical executive, blurring reality and delusion, and exploring themes of trust, control, and ecological fragility.



In an era where cinema increasingly blurs the boundaries between genres, truth, and perception, *Bugonia* (2025) stands out as one of the most unsettling and intellectually provocative films of recent years. Directed by Yorgos Lanthimos and written by Will Tracy, the film reimagines the South Korean cult classic *Save the Green Planet!* with a bold, contemporary lens. It merges black comedy, science fiction, psychological tension, and social commentary into a singular experience that feels both absurd and deeply disturbing. The story follows Teddy Gatz, a troubled beekeeper consumed by conspiracy theories and personal trauma. His worldview is shaped by distrust and a growing belief that unseen forces are controlling the fate of humanity. His suspicions lead him to Michelle Fuller, a powerful pharmaceutical executive whom he becomes convinced is not human but an alien entity with a hidden agenda. Driven by this belief, Teddy kidnaps her with the help of his cousin and begins an intense interrogation in a confined basement setting.





What initially appears to be a bizarre and exaggerated premise slowly transforms into a psychological confrontation that challenges the audience's sense of reality. As the narrative unfolds, the line between delusion and truth becomes increasingly blurred. The film deliberately avoids offering clear answers, instead pulling viewers into a space where certainty dissolves and every assumption feels unstable.

At a deeper level, the film explores the rise of conspiracy thinking in a world where trust in institutions continues to erode. Teddy is not portrayed simply as irrational, but as a reflection of a broader societal anxiety where misinformation, fear, and disillusionment intersect. His paranoia mirrors a cultural moment in which individuals struggle to distinguish between truth and narrative, and where belief often overrides evidence.

Michelle's character introduces another layer of complexity. As the head of a powerful corporation, she represents authority, control, and the often opaque nature of global systems. Her calm, detached demeanor creates an unsettling ambiguity. Whether she is truly what Teddy believes or simply a victim of his delusion remains unclear, and this uncertainty becomes central to the film's tension.

The film also weaves in a quiet but persistent environmental subtext. The recurring presence of bees is more than symbolic; it reflects ecological fragility and the consequences of human neglect. The idea that something as small as a bee can represent the balance of life mirrors the film's larger message about how seemingly insignificant elements can hold immense importance. There is a constant suggestion that humanity's relationship with nature is strained, and that this imbalance may have consequences far beyond immediate perception.



Performances play a crucial role in sustaining the film's intensity. Jesse Plemons delivers a portrayal that is both unsettling and unexpectedly human, capturing the fragile psychology of a man caught between conviction and instability. Emma Stone brings a controlled, almost enigmatic presence, allowing her character to exist in a space that is neither fully transparent nor entirely knowable. Their dynamic creates a tension that drives the film forward, keeping the audience engaged while constantly questioning what they are witnessing.

Visually, the film maintains a striking contrast between environments. The sterile, polished world associated with corporate power stands in sharp opposition to the confined, raw space of Teddy's basement.

This visual duality reinforces the thematic divide between control and chaos, authority and rebellion. The cinematography and sound design contribute to an atmosphere that feels immersive and often uncomfortable, heightening the psychological weight of each scene.

As the film approaches its conclusion, it shifts into a space that feels both shocking and open to interpretation. Rather than offering resolution, it deepens the central ambiguity, leaving viewers to grapple with their own understanding of events. The ending does not seek to comfort or clarify; instead, it challenges the audience to reconsider everything that came before.

Bugonia ultimately functions as more than a narrative about conspiracy or alien presence. It is a reflection on the fragility of human perception, the consequences of unchecked systems, and the growing disconnect between reality and belief. It asks difficult questions without providing easy answers, forcing viewers to confront uncertainty in a way that lingers long after the film ends.

In a cinematic landscape often dominated by formula and predictability, Bugonia stands apart as a work that embraces discomfort and complexity. It is a film that does not simply tell a story, but invites reflection, debate, and unease, making it one of the most memorable and thought-provoking releases of its time. ■

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TECH NEWS



PAKISTAN TO REPAY \$3.5 BILLION UAE DEBT AMID RESERVE PRESSURE

Pakistan has decided to repay \$3.5 billion to the United Arab Emirates before the end of the month following a request from Abu Dhabi, officials confirmed. The funds, originally deposited in 2019 to support Pakistan's economy, had been rolled over several times but recently saw shorter extensions. The repayment is expected to reduce Pakistan's foreign exchange reserves, currently around \$16.3 billion, by nearly 18%, increasing financial strain. The move comes as Pakistan remains dependent on support from the International Monetary Fund and key partners like China and Saudi Arabia. Analysts warn it could pressure the rupee unless alternative funding is secured.

BREAKTHROUGH GENE THERAPY INJECTION RESTORES HEARING IN DEAF PATIENTS

Scientists have achieved a major breakthrough in treating genetic deafness, as an experimental ear injection successfully restored hearing in all 10 patients during a clinical trial. The innovative treatment targets mutations in the OTOF gene, which plays a crucial role in transmitting sound signals from the inner ear to the brain. Researchers delivered a healthy version of the gene directly into the inner ear through a single injection. Within weeks, pa-



tients, ranging from young children to adults, showed significant improvements. Many began responding to sounds within a month, with several achieving the ability to clearly understand speech. Unlike traditional solutions such as hearing aids or cochlear implants, this therapy addresses the root genetic cause of deafness rather than simply enhancing sound. Experts believe this advancement could open new pathways for treating a wider range of inherited hearing disorders, marking a significant step forward in medical science and hearing restoration.



"LAUGHING RAT" MALWARE RAISES ALARM WITH DATA THEFT AND HARASSMENT FEATURES

Cybersecurity researchers have uncovered a new malware-as-a-service platform, CrystalX RAT, which combines traditional spying tools with disruptive prank-like features. According to Kaspersky, the malware is actively being promoted online and could spread rapidly among users. CrystalX RAT allows attackers to remotely control infected systems, execute commands, access files, and even shut down devices. It also includes data theft tools such as keylogging, clipboard hijacking, and extraction of sensitive information from apps like Steam, Discord, and Telegram. Additionally, it enables surveillance through camera and microphone access. What makes it particularly alarming are its prank features, including changing wallpapers, moving cursors, and sending intimidating messages via a built-in chat system. Sold through subscription models and promoted on Telegram and YouTube, the malware targets less experienced hackers but still enables full system compromise, raising serious global cybersecurity concerns.

PUNJAB GOVT TO DISTRIBUTE ELECTRIC BIKES TO BOOST EXCISE DEPARTMENT PERFORMANCE

The Punjab Government has announced a plan to provide electric bikes to employees of the Excise Department Punjab in an effort to improve field operations and achieve its Rs. 73 billion recovery target. According to officials, both male and female excise inspectors will receive electric two-wheelers based on their performance. In the first phase, 150 electric bikes and 50 electric scooties for fe-



male inspectors will be distributed. The government has allocated over Rs. 50 million for the initiative, and the procurement process is in its final stages. Distribution is expected to begin next month. Under the scheme, employees will be allowed to retain ownership of the vehicles after three years of service. Authorities believe this initiative will enhance mobility, improve efficiency, and support environmentally friendly transportation within the department.

PAKISTANI DEVELOPER LAUNCHES FIRST PASHTO AI CHAT-BOT 'QEHWA'

A Pakistani developer, Junaid Ahmed, has created Qehwa AI, the world's first large language model (LLM) and chatbot designed specifically for Pashto speakers. Built to serve over 60 million users, the model focuses on the Peshawari dialect and addresses gaps in global AI systems when handling Pashto language and cultural context. Developed using Qwen2.5-7B, the system was trained on 3.4 million Pashto documents and fine-tuned with over 100,000 instruction pairs. It achieved an overall accuracy of 85.3% across 150 benchmark tests, with strong performance in translation, culture, and daily life topics. The project was completed independently without funding, with support from open-source platforms like Hugging Face. Qehwa AI is now available as a free, open-source



tool, marking a major step forward for regional language AI development.

CPEC PHASE-II TO DRIVE INDUSTRY, INNOVATION AND COOPERATION

Federal Minister Ahsan Iqbal announced that CPEC Phase-II will prioritise industrial growth, innovation, and people-to-people connectivity, marking a shift toward broader economic integration. Speaking at a ceremony honouring Pakistani and Chinese professionals, he highlighted new corridors focused on growth,

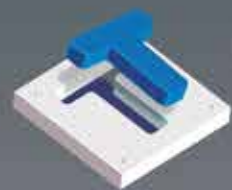


livelihoods, and regional development. He stressed the importance of renewable energy, modern meteorology, and skilled human resources, urging students trained in China to contribute to Pakistan's progress. The China-Pakistan Knowledge Corridor was also discussed to enhance higher education access. Officials underscored Gwadar's rising geopolitical and trade significance. Chinese Ambassador Jiang Zaidong reaffirmed strong bilateral ties during the 75th anniversary of diplomatic relations. At a separate FPCCI meeting in Lahore, business leaders proposed joint ventures and relocation of Chinese industries to Pakistan's Special Economic Zones. Both sides emphasised accelerating CPEC 2.0 with focus on technology transfer, agriculture modernisation, and private-sector collaboration.



NBP LAUNCHES WHATSAPP BANKING FOR EASY ACCESS

The National Bank of Pakistan (NBP) has launched a WhatsApp banking service to enhance customer convenience and expand digital access. The initiative allows users to access essential banking features through one of the country's most widely used messaging platforms. According to an official statement, customers can check account balances, view mini statements, request detailed statements, and explore other banking services directly via WhatsApp. NBP President Rehmat Ali Hasni said the move reflects the bank's commitment to digital innovation and its goal of making banking simpler and more accessible for millions of Pakistanis. Chief Digital Officer Adnan Nasir described the launch as part of NBP's broader digital transformation strategy, adding that more features will be introduced in the future. The service aims to improve customer experience, strengthen digital engagement, and promote financial inclusion, ensuring banking services are just a message away for users across Pakistan.



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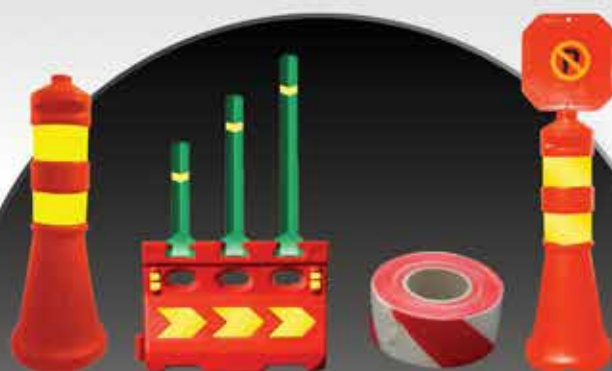
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