# PAKISTAN AEROSPACE COUNCIL

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## REACHING FOR THE STARS: The Unwavering Journey of the Pakistan Aerospace Council

In this dynamic age where technology and ambition interlace, the Pakistan Aerospace Council emerges as a luminous beacon of progress and innovation. With relentless determination, the council has consistently scaled new heights, drawing the nation ever nearer to the cosmos. This editorial highlights the council's core objectives, vibrant activities, and laudable achievements.

#### A Vision Beyond the Horizon

The essence of the Pakistan Aerospace Council is encapsulated in a vision that reaches beyond the tangible limits of our skies. The council envisions a Pakistan recognized globally as an epicenter of aerospace ingenuity, marked by pioneering research, sustainable endeavors, and global synergies. We have emerged as Pakistan's High-Tech Cluster with Pakistan's private sector member companies who have stellar achievements to their credit By cultivating robust alliances with global aerospace stakeholders, the council champions the mutual exchange of knowledge, sparking innovations that echo internationally.

#### A Confluence of Expertise and Drive

Serving as the epicentre of aerospace dynamism, the Pakistan Aerospace Council provides a thriving platform for experts, researchers, and aficionados. Boasting a membership of firms excelling in product innovation and adept at navigating challenges in the defence sector, our member entities are tech stalwarts. From insightful symposiums highlighting sectoral novelties to workshops enhancing skill sets, the council brims with ground-breaking endeavours.

The council's fervent commitment to educational outreach shines through, as it inspires budding aerospace professionals via school initiatives, scholarships, and mentorship. Collaborative ventures with technical universities, aiding in the crystallization of student research projects, and guiding university start-ups have been transformative for our urban landscapes. This synergy has ignited not just a passion for aerospace but also entrepreneurial vigour, evident in the burgeoning tech parks teeming with successful enterprises.

#### A Tapestry of Milestones

Over the years, the council's trajectory is punctuated with impressive milestones aligned with its ambitious aspirations. Trailblazing research initiatives have positioned Pakistan prominently on the global aerospace canvas. Furthermore, the council's fruitful international collaborations underscore its commitment to global solidarity in the quest for aerospace magnificence.

#### **Charting the Skies of Tomorrow**

On the brink of a transformative era, the Pakistan Aerospace Council is geared to ascend unprecedented zeniths. With a series of forward-looking initiatives underway, the horizon is replete with possibilities. The council's vision paints a picture of a Pakistan that stands not just as a consumer but as an influential trailblazer in the aerospace spectrum.

Imtiaz Rastgar

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## MIDDLE EAST MARKET FOR HIGH-TECH PRODUCTS COULD REACH \$125 BILLION BY 2025

The Middle East region's manufacture of three major product areas – advanced materials, advanced components and advanced products – could be worth around \$125 billion in revenues by 2025, the latest report by Strategy & Middle East, part of PwC, said.

The report called for Middle East countries to increase localization of production in these industries to maximize revenues from them, instead of importing them.

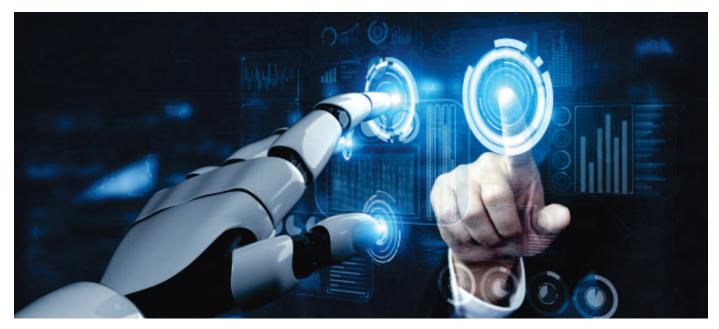


## SUBCONTRACTING POSSIBILITIES FOR HIGH-TECH COMPANIES

The Pakistan Aerospace Council (PAeC), a leading high-tech industries cluster in Pakistan, is pleased to announce an exciting opportunity for its member companies to explore subcontracting possibilities at the highly anticipated Pakistan Auto Show (PAPS). Taking place on the 27th, 28th, and 29th of October 2023 at the Karachi Expo Centre, Karachi, Pakistan the event promises to be a premier platform for industry players to showcase their products, forge partnerships, and unlock new subcontracting prospects. As an organization dedicated to driving technological advancements in the aerospace sector, the Pakistan Aerospace Council (PAeC) recognizes the importance of collaboration and partnerships to fuel innovation and growth.

Through its member companies, PAeC aims to showcase the remarkable capabilities of Pakistan's aerospace industry and foster subcontracting opportunities in various related domains.

By booking stalls through the Pakistan Aerospace Council, PAeC member companies will be part of a prominent aerospace presence within PAPS. The collective representation of the aerospace sector will highlight the industry's significance and showcase Pakistan's potential for delivering hightech solutions and services.



## COMPREHENSIVE REPORT ON THE VISIT TO TURKISH AIRCRAFT INDUSTRIES BY PAEC MEMBERS



In a landmark move to foster bilateral cooperation and exchange, a delegation spearheaded by Dr. Haroon Javed Qureshi, President of the Pakistan Aerospace Council (PAeC), undertook a significant visit to the Turkish Aircraft Industries (TUSAŞ) and the Turkish Ministry of Defense (SSB) based in Ankara, Turkey. This collaborative venture transpired between the 22nd and 25th of August, 2023. It marked a seminal point in forging partnerships and exploring synergies between the Pakistani and Turkish aerospace sectors.

The PAeC delegation was a critical part of a larger team comprising members from the Pakistan Air Force (PAF) and the National Aerospace Science & Technology Park (NASTP). This alliance was focused on delineating and discussing potential avenues of collaboration between Turkish and Pakistani Industries concerning pioneering aerospace engineering projects. The projects spotlighted during these discussions were the "KAAN" Next Generation Fighter program, the T129 Attack Helicopter initiative, the Anka Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) venture, along with other notable defence projects that are seen as milestones in aerospace engineering and defence technologies.

A prominent highlight of the visit was the business-to-business (B2B) interaction that took place concurrently with government-to-

government (G2G) engagements. These interactions paved the way for a robust dialogue between the Pakistani private sector and their Turkish counterparts. They ventured deep into discussions to identify and map out potential areas where collaborative business opportunities could be nurtured, fostering a new era of partnership and mutual growth. This exploration of delegation was further fortified with the presence of other eminent personalities from the industry, amplifying the scope and depth of the interaction. The members who graced the occasion included Mr. Amjad Shakoor of RWR Pvt Ltd, Dr. Naveed Iqbal representing Teresol Pvt Ltd, Mr. Farukh Amin from AKSA SDS Ltd, Mr. Mahmood Sherani helming Sherani Engineering Pvt Ltd, and Mr. Sajid Tareen from Solunox Pvt Ltd. Each brought a wealth of experience and insights to the table, contributing to a multi-faceted and fruitful discussion.

This venture marked a first of its kind in fostering a comprehensive B2B Aerospace Engineering Exchange between the private sectors of the two nations. Moreover, it has set a precedent for the Pakistan Air Force and the Government of Pakistan to assimilate knowledge and best practices from the well-established Turkish framework that seamlessly integrates the private sector into large state-owned aviation programs.

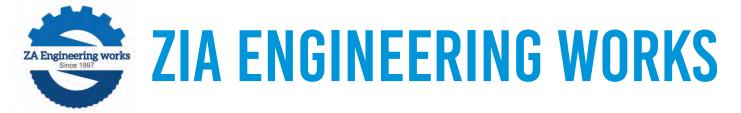


cooperative business opportunities was harmonized with dialogues between the PAF and SSB Turkey, aiming to solidify the relations at both governmental and entrepreneurial levels.



The PAeC was robustly represented during this engagement, with Dr. Haroon Javed Qureshi leading the contingent, wearing dual hats as the President of PAeC and the head of East West Infiniti Pvt Ltd, his own premier engineering company. The This groundbreaking interaction has not only opened the doors to immense possibilities but also laid a robust foundation for a progressive partnership. It signifies the dawn of a collaborative era where expertise, technology, and resources are expected to converge, fostering innovation and development in the aerospace sector, thereby strengthening the ties between Pakistan and Turkey in this dynamic and everevolving field. It marks the beginning of an exciting journey where shared visions are set to transform into tangible projects, heralding a new era of aerospace excellence and defensive resilience.

#### NEWS / ARTICLE





In the ever-evolving landscape of precision engineering, Zia Engineering Works stands as a testament to unwavering dedication and innovation. Established in 1985, the company has seamlessly amalgamated craftsmanship with cutting-edge technology, solidifying its reputation as a trusted partner for renowned OEMs like Suzuki, Yamaha, Schneider, Hino, and Master Motors. Over three decades, ZEW has consistently upheld a commitment to delivering engineering solutions of the highest quality. With a self-owned press shop, advanced

tooling facility, and state-of-the-art design center, the company boasts an arsenal of modern machinery including laser cutting, CNC machines, CNC benders, and welding tools. Beyond machines, ZEW excels in designing intricate tools, checking fixtures and molds, as highlighted by the recent export of a meticulously crafted mold to **Canada**, showcasing its global influence. Bolstered by an unyielding focus on customer satisfaction, ZEW not only manufactures products but also fosters relationships and champions excellence. This legacy of precision, innovation, and dedication positions ZEW at the forefront of engineering excellence

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- Reverse Engineering



## **GIS PLUS TOTAL SOLUTIONS (PVT.) LIMITED**



As a dynamic and forward-thinking company, GIS Plus Total Solutions (Pvt.) Limited takes immense pride in our substantial contributions to the progress and prosperity of our country. Through a series of innovative and impactful projects, we have consistently demonstrated our commitment to driving positive change and enhancing various facets of our country's development.

One of our own flagship products "EstaTech" revolves around smart housing management, our innovative project offers housing sector a cuttingedge GIS-based real-time management system, revolutionizing their operations across vital domains. From property management to financial integration, system helps to elevate decision-making and community well-being through seamless web and mobile platforms.

GIS Plus Total Solutions (Pvt.) Limited has done other projects based on Interactive GIS-based portals which represent a technological leap that empowers users with dynamic spatial insights. Seamlessly fusing geographic information with userfriendly interfaces, these portals offer an immersive experience, enabling real-time exploration, analysis, and decisionmaking. Users can effortlessly visualize complex data, overlay diverse layers, and uncover hidden patterns, thereby facilitating informed choices across domains. With the power to transform static information into actionable intelligence, interactive GIS-based portals are reshaping how we interact with our world, fostering a deeper understanding

and paving the way for smarter, more responsive strategies. List of such projects are Water and Sanitation Hygiene (WASH) – GIS for UNICEF, National Gender Data Portal (NGDP) for UN Women inaugurated by worthy President Dr Arif Alvi, Air Quality Web Portal for Air Quality Monitoring in Mogadishu- Conservation Somalia, National Forest Monitoring System (NFMS) for Redd+, Pakistan Agriculture Geospatial Data Portal for National Ministry of Food Security & Research (MNFS&R).

In conclusion, GIS Plus Total Solutions (Pvt.) Limited has come a long way on a 9year journey, encompassing private, public, and international sectors and now finds itself at a more developed stage. As we continue our journey, we remain unwavering in our commitment to drive positive change and contributing to the well-being and development of Pakistan.

# SHERANI ENGINEERING POWERS PAKISTAN'S ENTRY INTO THE GLOBAL UAV MANUFACTURING ARENA





In a monumental achievement, Sherani Engineering, a founding member of the Pakistan Aerospace Council, has successfully designed, manufactured, and commissioned jigs for the assembly of unmanned aerial vehicles (UAVs). This ground-breaking accomplishment, the first of its kind in Pakistan, opens the doors for the mass production of Medium Altitude Long Endurance (MALE) UAVs, placing Pakistan on the global map for UAV manufacturing.

The current global UAV market, valued at USD 22.5 billion, is anticipated to soar to a staggering USD 58.4 billion by 2026. Sherani Engineering's achievement represents a significant step, signaling Pakistan's readiness to carve a substantial niche in this rapidly expanding market.

Renowned for its expertise in the automotive industry, Sherani Engineering stands as the only Pakistani company that exports jigs, reinforcing its credibility and reputation as a trusted partner for Auto OEMs. From establishing complete plants and assembly lines to designing and manufacturing jigs, Sherani Engineering's capabilities extend far and wide.

However, what truly distinguishes Sherani Engineering is its in-house design capability, bolstered by a rich experience in Computer-Aided Design (CAD). With a dedicated team of experienced engineers, Sherani Engineering takes pride in its ability to transform complex requirements into functional, highquality products.

In the aerospace sector, Sherani Engineering displays proficiency in machining critical components from aluminum, stainless steel, and titanium. It also excels in producing composite molds, jigs, and specialized products such as tripod jacks, ground support equipment, drogue testers, and engine overhauling tools.

The successful transition from automotive to aerospace underlines Sherani's adaptability, innovation, and commitment to meeting international standards. It also echoes Pakistan's potential to contribute significantly and compete in the global aerospace sector.

Sherani's breakthrough in UAV production positions Pakistan to not just participate in, but to lead in the expanding arena of aerospace manufacturing. This significant stride underscores Sherani's unwavering commitment to innovation and quality, establishing its role as a leading catalyst in the advancement of Pakistan's engineering landscape.

# SOFTWARE AND AEROSPACE TECHNOLOGY PARKS IN PAKISTAN



The strategy to foster technological growth and innovation in the modern world hinges significantly on the establishment of technology parks. These parks act as catalysts, bringing together researchers, entrepreneurs, startups, corporations, and training facilities to craft an environment ripe for collaboration and knowledge exchange. The essence of Science and Technology Parks (STPs) lies in their capacity to stimulate innovation, economic progression, and technological advancements in contemporary societies.

The early 2000s marked the dawn of several Software Technology Parks across Pakistan. These were strategically designed to cater to the

IT sector, providing the much-needed physical infrastructure for IT companies to initiate their operations. Apart from the physical infrastructure, these parks bestowed various advantages, such as tax exemptions, lower utility costs, and simplified regulations, making them an attractive proposition for tech enterprises. The first officially recognized Software Technology Park took root in Islamabad, aptly named the "Islamabad Software Technology Park." This establishment represented a monumental stride in the nation's tech landscape, creating a haven for IT companies. Over the subsequent years, the model was replicated, and more Software Technology Parks sprung up in major cities, including Lahore, Karachi, Peshawar, and Faisalabad. These parks rapidly transformed into nerve centers for IT and software firms, presenting them with cutting-edge facilities, swift internet connectivity, and a nurturing, collaborative milieu.

However, the recent technological wave in Pakistan has seen a new addition, the National Aerospace Science & Technology Park (NASTP). Dubbed "NASTP Alpha", this park is the pioneer in a series envisioned to span across the nation. Sprawling over 16 acres, NASTP Alpha is a colossal setup, comprising 11 buildings and a vast built-up area of nearly 400,000 sq. ft. Within this space, 125,000 sq. ft. has been earmarked for private entities. The park also features a co-working arena, catering to both budding entrepreneurs and established companies scouting for turnkey solutions.

Integral to NASTP Alpha's ecosystem are two incubators – NICAT and Siber Koza. NICAT, the National Incubation Centre for Aerospace Technologies, is a venture backed by IGNITE, under the Ministry of Information Technology & Telecommunications. This center is orchestrated by a consortium of NetSol Technologies (Pvt Ltd), PAC Kamra, Air University, and Innovator Garage (Pvt) Ltd. Siber Koza, on the other hand, is an incubation hub focusing on Cybersecurity, collaboratively operated by PAF and the Turkish entity, CrypTech. Moreover, the park accommodates an extensive range of organic R&D outfits of PAF, delving into diverse domains such as Aircraft, Space systems, Sensors, Communication systems, Command & Control systems, Simulators, Cyber Security, Artificial Intelligence, Training, and Air Worthiness Certification. With round-the-clock security, power, air conditioning, internet, and data centre services, NASTP Alpha stands out as a Special Technology Zone (STZ), promising a slew of incentives for its resident enterprises. This monumental establishment was unveiled on 4 August 2023 by the nation's leadership and is now in full throttle, hosting a diverse audience, from government luminaries and tech aficionados to pioneering entrepreneurs and investors. The confluence of government agencies, industry stalwarts, and academia within a single cohesive framework is already bearing fruit in the form of ideation cross-pollination and burgeoning business activities. NASTP Alpha has quickly emerged as an epicenter for anyone deeply embedded in the tech ecosystem, both within the country and internationally.

In conclusion, Pakistan's commitment to fostering a thriving technological ecosystem is palpably evident in its investments in Software and Aerospace Technology Parks. These establishments, beyond being mere infrastructural marvels, are milestones in Pakistan's journey toward technological supremacy, fostering innovation, and economic transformation.

## SUPER MUSHSHAK AIRCRAFT: EXPANDING ITS WINGS ACROSS GLOBAL SKIES



As the world of aviation evolves, certain aircraft models stand out, marking their territory in global markets. Among them, Pakistan's indigenously built Super Mushshak has swiftly cemented its place as a preferred trainer aircraft for defense forces and flying training institutions worldwide.

Recently, the prowess of Pakistan's aerospace industry has been showcased yet again as the nation successfully delivered its first batch of Super Mushshak trainer aircraft to Iraq. This milestone reaffirms the aircraft's reputation and showcases Pakistan's growing prominence in the global aviation sector.

What makes the Super Mushshak exceptionally attractive to global partners? Its combination of advanced design, cutting-edge technology, and cost-effectiveness make it a sought-after asset. As a result, many countries have either shown keen interest in or already added this aircraft to their fleets. A snapshot of its international clienteles includes:

- $1.\,Oman: Serving the prestigious Royal Air Force of Oman.$
- 2. Qatar: An essential component of the Qatari Air Force's training regime.
- 3. Nigeria: Aiding in the rigorous training processes of the Nigerian Air Force.
- 4. Turkey: Embellishing the strong defense ties between Turkey and Pakistan, an impressive order of 52 Super Mushshak aircraft is currently being processed at the Pakistan Aeronautical Complex in Kamra.
- 5. Azerbaijan: Furthering its presence in the Eurasian region.
- 6. South Africa: Extending its reach to the southern tip of the African continent.

In a recent statement, the Iraqi Minister of Defence lauded the aircraft's potential in revamping the training protocols for Iraqi pilots. According to him, the Super Mushshak will be instrumental in bolstering the skills and capabilities of the Iraqi Air Force. Furthermore, the Minister expressed a burgeoning interest in Pakistan's advanced JF-17 Fighter Jet Program, indicating a desire for deeper defense collaboration between the two nations.

Manufactured at the Pakistan Aeronautical Complex in Kamra, the Super Mushshak aircraft isn't just a machine; it is a testament to Pakistan's technological prowess and commitment to excellence. With its burgeoning global reputation as a premier choice for pilot training, the Super Mushshak is not just flying high-it's setting standards.

## SAUDI-TURKISH-PAKISTANI TRIPARTITE COMMITTEE DISCUSSES DEFENCE CO-OPERATION

Delegations discussed developments in the defence industry, technology transfer and localization, and scientific research

Representatives from Saudi Arabia, Turkey and Pakistan are holding their first meeting on defence cooperation in Riyadh. The Saudi-Turkish-Pakistani Tripartite Committee on Wednesday held its first meeting in Riyadh to discuss defence co-operation.

Saudi Arabia's Ministry of Defence reported that the meeting was attended by Talal Al Otaibi, assistant minister of defence; Lt Gen Muhammad Saeed, the Pakistani Army's chief of General Staff; and Turkish deputy minister of defence Celal Sami Tufekci. The Saudi Press Agency reported that the Turkish-Pakistani Tripartite Committee held its first meeting in the capital to discuss ways to enhance defence co-operation.



Saudi Arabia Ministry of Defence

## SAUDI ARABIA AND THE UAE OPT FOR NVIDIA CHIPS TO POWER THEIR AI AMBITIONS 22-8-2023

Two Arab nations are making a swift entry into the global AI race, namely Saudi Arabia and the UAE.

In a bid to propel their AI industries in the global spotlight, the two monarchies embarked on a significant acquisition of Nvidia Graphics Processing Units (GPUs). Tech and the post-oil future. The two Gulf

countries are betting on tech as part of their strategies to transform their economies and diversify them away from old dependency, a pivotal part of their respective visionary roadmaps-Vision 2030 in Saudi Arabia and Vision 2031 in the UAE.

Saudi Arabia has acquired a substantial cache of 3,000 Nvidia H100 GPUs, at the c u tti ng e d g e of t h is technology, for a combined value of \$120 million. Each GPU costs \$40,000. Nvidia's CEO, Jensen Huang, lauds these GPUs as "the world's first computer chip designed for generative AI."

#### Remarkable first steps

At the helm of Saudi Arabia's Al expedition is the project code named Shaheen III, a super computer project poised to reshape computational horizons, planned to be powered by 700 Nvidia Grace Hopper super conductor chips. Akin to its neighbor, the UAE is orchestrating aprofound national revolution in AI through strategic developments. The UAE's state-owned Technology Innovation Institute in Abu Dhabi has recently announced the creation of Falcon, an open-source large language model.



# INTERNATIONAL VACUUM CENTER A BEACON OF MODERN TECHNOLOGIES

Today, vacuum technology has become an integrated part of virtually all industries. IVC is at the cutting edge of vacuum technology and has been creating new opportunities for customers since its establishment. Products and systems developed in-house at IVC are always a step ahead of technological growth. In industry, there is an accelerating trend toward ever more customized solutions that can be made available at short notice. Product development times and production runs are both becoming shorter. Changes are becoming more sudden and even harder to predict. IVC pursues its contribution to the growth of industry, science, and technology by providing both support and cooperation in order to make the best use of vacuum and related technologies throughout the country.

With 40 years of experience, IVC has been established to develop and manufacture various types of vacuum pumps, gauges, valves, and accessories, for application throughout the full vacuum spectrum. It also supplies vacuum technology products and systems to industries, research institutions, and universities, as we are the comprehensive supplier of all types of vacuum technology and its applied products in the private sector in the country. Its setup is equipped with the most modern facilities and state-of-the-art machinery. It offers quality sales, service, and repairs in the shortest possible time to our valued customers. IVC hears everything about vacuum equipment, application, and advice.





#### Al Enabled Tanks – A Boost in its Effectiveness

Auto tracker is one of the Vital Sub systems of **Tank Fire Control System** for achieving precision in target firing. It



assists Tank Gunner for accurate / smooth firing solution and reduces the time needed to neutralize the target during **Static to Move and Move to Move battle scenarios**. Gunner and Commander visually detects and manually track Tanks, Armored Personal Carriers, Trucks, small vehicles based on the video input from Thermal and CCD Cameras installed on the tank.

TeReSol is pleased to announce that it has successfully developed & field tested its **Artificial Intelligence (AI) Enabled Auto tracker**, which automatically detects & track above mentioned targets and assist in firing with 100% accuracy in hazy field environments as well as pitch dark nights. This success is achieved based on installed passive sensors including Thermal Infrared & CCD cameras with no additional sensor. For this development project following were three major challenges / tasks for the TeReSol development team.

#### AI Enabled Embedded Hardware Design

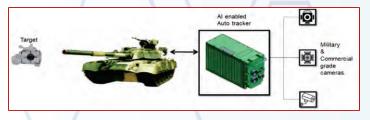
Auto tracker was developed using customized **PowerPC Single Board Computers (SBCs)** and **NVIDIA GPU processors** developed at TeReSol with cutting edge cooling mechanism. PowerPC architecture SBCs allowed handling of real time operations and GPUs provided flexibility in handing intensive computations.

#### **AI Algorithm Development**

TeReSol Auto tracker is equipped with customized deep learning-based detector and rugged tracker algorithms. The developed AI based algorithm detects, extracts target features and, recognizes target in field environment for precise tracking up to range of 500m – 5000m. Tracker algorithm enables tracking through high & low speed in different scenarios including 70% occlusion due to field environmental effects.

#### Integration with Conventional Tank

Auto tracker is designed in a modular way and can be integrated with any main battle tank in less time. It is integrated with Fire Control Computer (FCC), CCD camera as well as Thermal Imager (TI) cameras on board the tank. Auto tracker is MIL STD 810-G qualified product and include following salient key features:



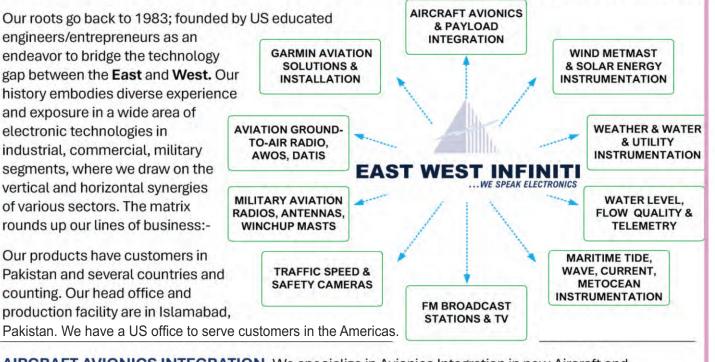
#### Salient Key Features of Al Enabled Auto Tracker

- Lock the target in less than 1 sec
- Maintain lock in partial/complete occlusion (while object passes behind an obstacle)
- Track the locked target during crisscrossing of similar/different feature targets
- Detects the target automatically within 7 seconds after it reappears behind hindrance
- Track the target during target turns or change positions
- Uninterrupted tracking during dust or sandstorm, rain or foggy environment
- Recording switch for flight operation program to monitor record



#### DR. NAVEED IQBAL

COOO, TeReSol PVT LTD E-mail: niqbal@teresol.com HEAD OFFICE: 15 Sheikh Zayed Bin Sultan Road (G.T Road), Sector – H, DHA Phase – II, Islamabad, Pakistan. **EAST WEST INFINITI** Private Limited is a 40-year-old Pakistani company with an international presence, with good reputation in **Engineering, Development, Production & Support** of Electronics focused technology products and solutions.



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#### FARNBOROUGH INTERNATIONAL AIRSHOW 2024 **REPORTS RECORD DEMAND FROM THE GLOBAL AEROSPACE INDUSTRY 29 AUGUST 2023**



The Farnborough International Airshow 2024 is experiencing exceptional demand from the global aerospace industry, demonstrating the positive growth outlook

for the sector. Despite ongoing supply chain challenges, the aerospace and space industries are predicted to rebound strongly, with commercial revenues projected to grow by 14% year-on-year. The upcoming airshow has received record-breaking interest in exhibition space, sponsorship packages, and marketing activations, showcasing its position as a premier marketplace for the thriving industry.

The global airline industry is expected to return to profitability in 2023, and the MRO (Maintenance, Repair, and Overhaul) sector is anticipated to recover steadily through 2023. The global space market has also seen substantial growth, expected to reach \$1 trillion by 2030. Over 90% of commercial exhibition spaces and chalets for the airshow have already been reserved, reflecting the industry's enthusiasm. The event is set to take place from July 22 to 26,2024, and aims to bring together aerospace and aviation leaders for networking, technological advancements, and sustainable strategies.



FZN Electronics is an associate company of AKSA-SDS Pvt. Ltd. AKSA-SDS is an established company, specialized in Research, Design, Development and Manufacturing of Defence, Commercial and Communication Electronics Systems. We deliver custom Software Solutions, from Enterprise Application Development to Mobile App Design and beyond. We provide reliable hardware and software solutions by using innovative technologies.

- We develop the system from paper concept to full product and provide a complete transfer of technology
- We design the system with embedded growth potential to incorporate future needs.
- We can tailor our product(s) to any form factor to suit customer's requirement.
- We provide comprehensive Life Cycle Support for ease of maintenance.
- We can design, develop and manufacture RF microwave products, pulsed RF amplifiers up to 2.5KW, and amplifiers capable of processing multiple modulation schemes. Tri band and dual channel RF front ends. SDR's and receivers in different frequency bands.
- We can provide consultancy services in design, development and manufacturing of Electrical, Electronics, Avionics and RF fields.
- We develop O, I & D level testers for Lifecycle Support.
- We offer detailed technological and maintenance/repair training for our product(s).
- We provide distant support to guarantee best use of our product.

Power

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We ensure best quality at competitive price.



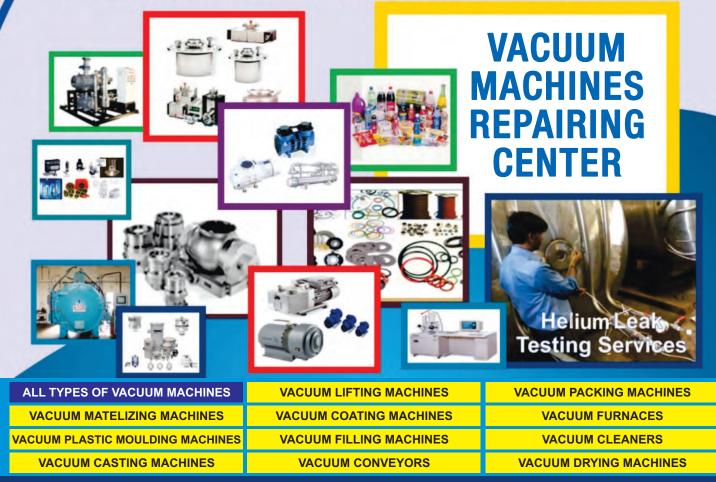
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## INTERNATIONAL VACUUM CENTER

**V** Provides Total Vacuum Technology Solutions



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Mass-spectrometers: Monopole and Quardropole

Vacuum Control and Display: All Types of coating and other system.

Leak Detectors: Halogen and helium leak detectors, etc Coatings Plants: Thermal Evaporators, Chemical Vapor Deposition, Sputtering Leak Detectors: Helium Leak Detectors Vacuum Furnaces: All Types Vacuum System Accessories: All Types

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GIS Plus Total Solutions (Pvt) Ltd, Islamabad, Pakistan **EAST WEST INFINITI** specializes in Avionics Integration in new Aircraft & Upgrades of current Aircraft, especially Glass Cockpit Suites using GARMIN and other third-party Avionics; we are a Pakistani engineering company with an international presence.

We are the Avionics architect of Pakistan Aeronautical Complex MFI-17 Super Mushak FAR23 Civil Certified Flight Trainer in use with Turkish and Qatari Air Forces.

The Turk MFI-17 has an advanced Garmin federated dual screen **Glass Cockpit,** a crash survivable Flight Data Recorder (black box); an integrated DME, full function Engine, Airframe and Fuel



Information system; and support electronics to comply with EASA/FAA 23 civil certification requirements.



The entire system has been shared under a technology sharing agreement between East West Infiniti and the respective OEMs.

EWI has been an authorized integrator & regional technology associate for GARMIN since last 30 years, giving us very deep understanding of Avionics deployment in various Military and General Aviation Aircraft.

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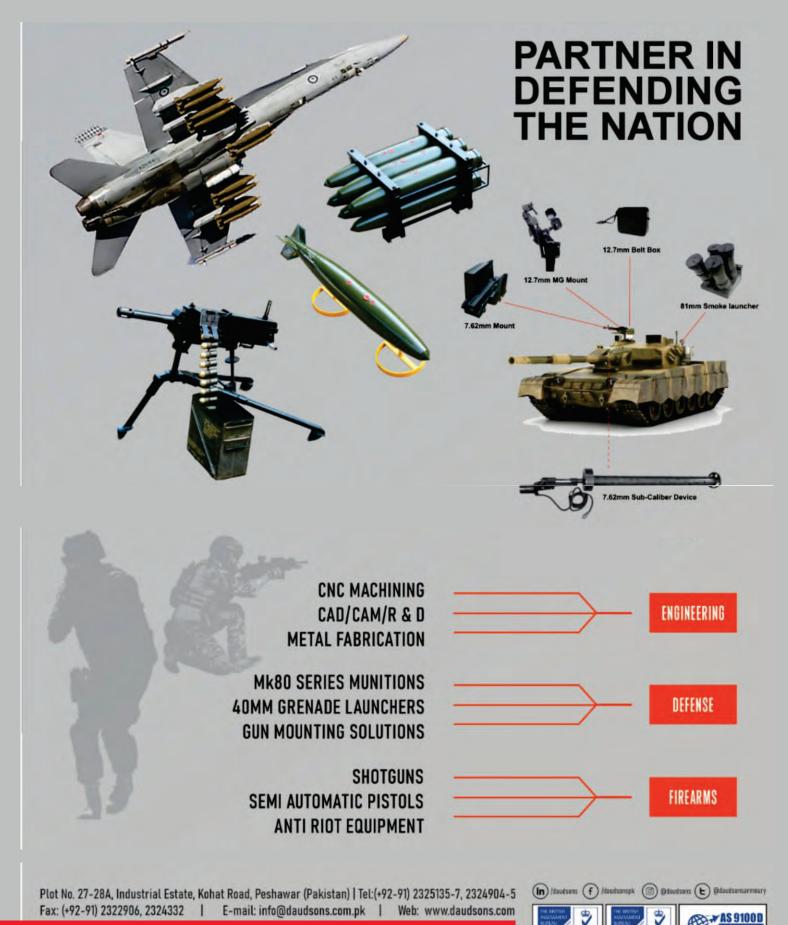
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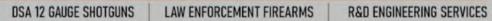


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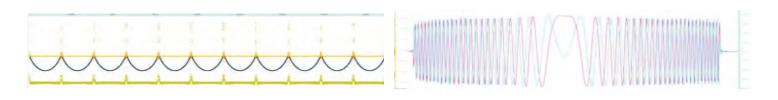
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## **SUPER MUSHAK AIRCRAFT SPORTS A GARMIN COCKPIT**



East West Infiniti, a prominent name in Pakistan's aviation sector, takes immense pride in announcing the successful design and integration of the GARMIN G950NXi into the Pakistan-produced PAC S u p e r M u s h a k A ir c r a ft . T h i s enhancement was specifically tailored for the Turkish Air Force, and we're poised to deliver the subsequent batch of these upgraded aircraft.

The PAC MFI-17 Super Mushak, an advanced iteration of the Saab Safari (MFI-15), is diligently manufactured by the Pakistan Aeronautical Complex for the Turkish Air Force. What sets this model apart is the incorporation of the Garmin G950 NXi Integrated Flight Deck

> Glass, coupled with the iAero ApiBOX CVFDR. This combination transforms the aircraft into a top-tier pilottraining machine.

Furthermore, the G950 NXi, as equipped on the Super Mushak, has successfully secured the FAA Part 23 certification for both IFR (Instrument Flight Rules) and VFR (Visual Flight Rules) operations. The complete integration and installation process, conducted in Pakistan, was meticulously handled by East West Infiniti. We extend our heartfelt gratitude to all stakeholders for their unwavering trust and robust support throughout the project's duration.

It's noteworthy to mention that the Super Mushak, when equipped with the Garmin G950NXi flight deck, stands unparalleled. It remains the sole FAA Part 23 certified configuration among the various MFI-17 aircraft versions available to our esteemed clientele, both existing and prospective.





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## THE RISE OF SAUDI ARABIA AS A TECH HUB: VISION 2030 IN ACTION



From investments to building industries from scratch, this is how Saudi Arabia is accelerating toward becoming a prominent tech player in the GCC region.

Saudi Arabia's push to diversify its economy away from oil and become a tech hub is making the world sit up and take notice. Long associated with a strict regime that has kept women out of the workforce and discouraged foreign investment, the country has undergone a complete transformation in the last five years. It all begins with Vision 2030—an elaborate plan to diversify Saudi Arabia's economy by placing a focus on technology, education, infrastructure, tourism, and recreation. The emergence of Saudi Arabia as a tech hub to rival Dubai has taken many people by surprise.

For PAeC it is a giant news. Let's make any such expo as the upcoming PAPS 2023 a marvel attraction for the Gulf countries and KSA. Let each and every member pay specific heed to all such events in a pragmatic manner of the business expansion module.



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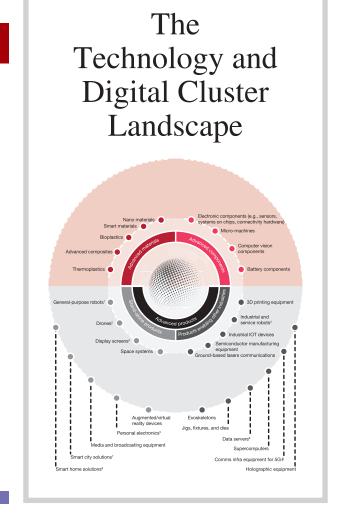


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