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The Voice Of The BEST (BEST Stands For Business, Entrepreneur, Seller & Value-Added Reseller & Technology)

February 2023 • Vol 03 • Issue 28

Aero India 2023
To Showcase Tech Prowess

L&T Technology Services

ENGINEERING THE CHANGE

TRANSFORMATION

- Architecting World's Smartest O□ce Campus
- World's 1st Cost-E□ective Robotic Endo-Training Kit
- Designing one-of-a-kind a□ordable Blood Cell Counter
- Chest rAI™, AI based chest X-Ray analysis system

INCUBATION

- **816** Patents*
- **79** Innovation Labs*
- **17** Global Design Centers*

SKILLS

- State-Of-Art Research & Test Labs
- **20,000** Employees Spread Globally
- **54%** Digital Engineering Revenues

*As of December 31, 2021

11 Vertitcal Leadership Zone

90% Repeat Business

57 Clients from World's top 100 ER&D Spenders

69 Fortune 500 Clients

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News | Facts | Analysis

The Voice Of The BEST
(BEST Stands For Business, Entrepreneur, Seller & Value-Added Reseller & Technology)

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CONTENT

EDITOR'S CORNER

Aero India 2023 To Feul Partnerships, Co-development And Co-production

As India is set to become the second largest economy in the world in the next 25 years, the Indian aerospace & defence (A&D) market is shining and it is expected to touch the $100 billion mark. Aero India 2023 helps us to position India among the top five countries globally in aerospace and defence industries with active participation from the public and private sectors.

Backed by rising defence expenditure, the Indian aerospace industry is registering exponential growth supported by its ever-growing civil aviation sector.

With the increasing demand for large aircraft from Indian carriers such as SpiceJet and Indigo, and a focus on Powered by Hour Contracts (PBH), many of India's aerospace services and manufacturing activities are expected to be carried out.

Similarly, as India's defence capital expenditure is continuously rising, there are also many opportunities in defence aerospace. This offers opportunities for startups as well as further expansion opportunities for existing players.

India's air passenger traffic rose by 47% on year to 123.2 million passengers in 2022, indicating a strong recovery from the dampened travel sentiment seen in 2021 and 2020 due to Covid-19 pandemic, data from the Directorate General of Civil Aviation showed.

It is also interesting to note that domestic air travel demand continued an upward trend in October 2020, with a 33% increase (over September) to ~52 lakh passengers. In June 2020, the Ministry of Civil Aviation approved a capacity increase to 45% from one-third, soon after domestic flights resumed on May 25, 2020. It further increased to 60% from September 2, 2020. With the festive season around, the government expects capacity to go up to 75%.

As India is rapidly modernising its military sector, the aerospace and defence industry is expected to consume electronics worth $70-72 billion over the next decade in agreement with two industry associations—the National Association of Software & Services Companies (NASSCOM) and the India Electronics and Semiconductor Association (IESA).

Aerospace requires highly qualified workers and precision capabilities. India presents an ecosystem, which ensures quality and improves performance for the overall effectiveness of business operations.

Coming to the manufacturing front in the aerospace industry, we have to understand a sea change in government approach. The Defence Acquisition Procedure 2020, a new category of Buying Foreign Manufacturing in India was incorporated to include provisions for encouraging FDI to establish manufacturing hubs. The new category involves the manufacturing of equipment (Maintenance Repair and Overall) through a subsidiary of a foreign corporation in India.

Further, India is considered a strategic geographical location and a significant international market with high aircraft demand, technical skills and competitive labour costs by Boeing, Airbus and other leading OEMs.

To meet the needs of Tier 1 suppliers and build an aerospace industry ecosystem in the country, manufacturers worldwide are partnering with Indian suppliers and small and medium enterprises. Active participation of global players is expected to further boost the growth of the aerospace industry in India.

In addition to defence offset clauses, we have PLI scheme to fuel the growth further. Also, there is a growing synergy between startups. The 14th edition of Aero India 2023, with its theme 'The Runway to a Billion Opportunities' will focus on displaying indigenous equipment and technologies and forging partnerships with foreign companies.

Aero India 2023 will be a confluence of companies from more than 80 countries, ministers of about 30 countries and 65 CEOs of global and Indian OEMs. There will be the participation of more than 800 Defence companies including around 100 foreign and 700 Indian companies. The event will also help in integrating domestic MSMEs and startups in the global supply chain and attract foreign investments including partnerships for co-development and co-production.

N V Vijayakumar
Editor-in-Chief,
The NFAPost

LEAD STORY

Aatmanirbhar Initiative Fuels Growth Of Indian Aerospace And Defense Industries

By Subramanya Joshi

The 14th edition of India's largest aerospace and defense exhibition Aero India 2023 is happening at a time when India is becoming the third largest civil aviation market in the world. Also, India is set to become the second largest economy in the world in the next 25 years. Here Indian aerospace & defense (A&D) market is shining and it is expected to touch the $100 billion mark.

Aero India 2023 helps us to position India among the top five countries globally in aerospace and defence industries with active participation from the public and private sectors. Backed by rising defence expenditure, the Indian aerospace industry is registering exponential growth supported by its ever-growing civil aviation sector.

With the increasing demand for large aircraft from Indian carriers such as SpiceJet and Indigo, and a focus on Powered by Hour Contracts (PBH), many of India's aerospace services and manufacturing activities are expected to be carried out.

Similarly, as India's defence capital expenditure is continuously rising, there are also many opportunities in defence aerospace. This offers opportunities for startups as well as further expansion opportunities for existing players.

CIVIL AVIATION INDUSTRY

The civil aviation industry in India has emerged as one of the fastest growing industries in the country during the last three years and can be broadly classified into scheduled air transport service which includes domestic and international airlines, non-scheduled air transport service which consists of charter operators and air taxi operators, air cargo service, which includes air transportation of cargo and mail.

Domestic traffic contributes around 69%

of the total airline traffic in South Asia and India's airport capacity is expected to handle 1 billion trips annually by 2023. The Indian aviation industry has recovered fully from the covid-19 pandemic shock as indicated by the air traffic movement which stood at 613,566 in the first quarter of FY 2022-23 compared to 300,405 in the same period last year, an increase of 104.24%.

India is currently the 7th largest civil aviation market in the world and is expected to become the third-largest civil aviation market within the next 10 years. Indigo is the largest airline company in India with the highest market share. India has become the third largest domestic aviation market in the world and is expected to overtake UK to become the third largest air passenger* market by 2024.

IndiGo remained the largest airline in 2022 with 56.1% market share in the domestic aviation industry and also retained the crown in on-time performance with 88.6% punctuality rate in December. The regulator calculates the on-time performance of airlines at the airports of Bengaluru, Mumbai, Delhi and Hyderabad for the punctuality list.

The Tata Group airlines, Vistara and Air India closely followed IndiGo in time-keeping with an on-time performance of 81.5% and 81.4%. While the third airline from Tata umbrella Air Asia retained the fourth position but performed poorly with only 65.2% flights on time in December as compared to 75% in November.

AirAsia was followed by state-run Alliance Air with on-time performance of 63.5%. SpiceJet and GoFIRST flights were the least punctual in December with only 56.9% flights and 49.7% flights on time respectively. Ironically, SpiceJet and GoFIRST were the best performers in capacity utilisation.

Nirmala Sitharaman while presenting the Union Budget for 2023-24 highlighted the importance of UDAN (Ude Desh ka Aam Naagrik) scheme, to boost the regional air connectivity. "Fifty additional airports, heliports, water aerodromes and advance landing grounds will be revived for improving regional air connectivity," Sitharaman said in her Budget speech.

Further, under the Vande Bharat Mission, between May 7, 2020 and October 31, 2020, international passenger traffic (inbound and outbound)

stood at ~10.96 lakh. UDAN flights have transported almost close to 1.15 crore people in the last six years.

DEFENSE EXPENDITURE TO FUEL AEROSPACE INDUSTRY

India's defense budget for 2020-21 is Rs. 4,71,378 crore ($67.4 billion), 9.37% higher than that in 2019-20. Of the Ministry of Defense total allocations, Rs. 323,053 crore (US$ 46.2 billion) has been provided under the Defense Services Estimates (DSE), which deals with expenses of the three-armed forces and the Defense Research and Development Organisation (DRDO).

Further, to support development of military procurement, in October 2020, the Modi government lifted expenditure restrictions on defence spending amid the ongoing stand-off with China. As a result, the Ministry of Defence, would be able to spend in line with its quarterly expenditure plan, which includes emergency procurement processes of over 100 contracts, each with a budget of Rs. 500 crore (US$ 67.10 million).

The defence budget during the 2023 budget was increased to Rs 5.94 lakh crore for 2023-24 from last year's allocation of Rs 5.25 lakh crore. A total of Rs 1.62 lakh crore has been set aside for capital expenditure that includes purchasing new weapons, aircraft, warships and other military hardware.

STRONG A&D ECOSYSTE

India ranked 19th among the world's defence exporters in attracting foreign investments. India's defence exports increased 700% in two years—from Rs. 1,521 crore (US$ 204.13 million) in 2016-17 to Rs. 10,745 crores (US$ 1.44 billion) in 2018-19.

Defence minister Rajnath Singh India's defence exports stood at a record Rs 14,000 crore in 2021-22. He also made it clear that it is an outcome of the government's policies to boost the export of military hardware to friendly foreign countries.

In August, the Union Ministry of Defense formulated the Defense Production and Export Promotion Policy 2020 as an underlying guidance document to accelerate PM Modi's commitment for 'Atmanirbhar Bharat' and provide a guided, streamlined and significant boost to the country's defense production capabilities for self-reliance and exports. The policy aims to generate revenue worth Rs. 175,000 crore (US$ 23.49 billion), including exports of Rs 35,000 crore (US$ 4.70 billion), in the aerospace & defense products and services space by 2025.

INDUSTRY SUPPORT

As India is rapidly modernising its military sector, the aerospace and defence industry is expected to consume electronics worth $70-72 billion over the next decade in agreement with two industry associations—the National Association of Software & Services Companies (NASSCOM) and the India Electronics and Semiconductor Association (IESA).

Industry players, innovators and researchers, backed up by the Indian government and space agencies, are focussing on creating new aerospace opportunities.

For example, in October 2020, Starburst Aerospace announced plans to expand presence in India and develop an innovation centre in Mumbai and conduct engagement activities in Delhi, Bangalore and Hyderabad through partners in the aerospace and defence community.

COST-EFFECTIVE ENVIRONMENT

Aerospace requires highly qualified workers and precision capabilities. India presents an ecosystem, which ensures quality and improves performance for the overall effectiveness of business operations.

In the third and latest edition of FDI's Aerospace Cities of the Future 2020-21 rankings, Hyderabad was ranked number one by FDI Intellegence.com, a division of the Financial Times Group, under the category 'Top 10 Aerospace Cities in Cost Effectiveness.' The other Indian cities that also made to the top 10 list include New Delhi and Bengaluru.

GOVERNMENT INITIATIVES

The government is taking several measures to boost domestic manufacturing and growth across industries. As of September 2020, ~36 companies from public and private sector undertakings such as Alpha Design Technologies Pvt Ltd., Bharat Electronics Ltd. and Hindustan Aeronautics Ltd. have already registered to participate in the five-day air show. The

foreign participants in the show include Frances MBDA, Israel Aerospace Industries Ltd., US aerospace major Boeing, Russia's Rosoboronexport JSC, etc.

To support its objective, the government is encouraging active participation from industry players.

For example, in the Defence Acquisition Procedure 2020, a new category of Buying ForeignManufacturing in India was incorporated to include provisions for encouraging FDI to establish manufacturing hubs. The new category involves manufacturing of equipment (Maintenance Repair and Overall) through subsidiary of a foreign corporation in India.

FOREIGN DIRECT INVESTMENT

Various government reform initiatives indicate a step forward in achieving objectives such as increasing FDI to 74% via automatic routes in the defence sector.

As per data provided by 80 companies, FDI inflow of over Rs. 3,454 crore (US$ 463.55 million) has been registered in the defence and aerospace sector as of June 2020.

PROMOTING 'AATMANIRBHAR MISSION'

In April 2018, an innovation platform called Innovations for Defence Excellence (iDEX) was launched. IDEX aims to build an ecosystem to encourage defence & aerospace innovation and technology initiatives.

It engages and supports industries such as start-ups, MSMEs, innovators and institutes with grants/funding to conduct R&D for future adoption of the Indian defence and aerospace needs.

'MAKE IN INDIA' INITIATIVES

Defence and aerospace continues to be a strong pillar for India and key government systems such as Make in India to succeed. Government policies have centred on the implementation of advanced technologies in the defence sector, thus improving the potential of domestic manufacturing. The Defence Ministry has set a target of 70% self-reliance in weaponry by 2027, creating huge prospects for players in the industry.

The Indian government has implemented several policies to promote self-reliance in defence and aerospace manufacturing under the Aatmanirbhar Bharat Scheme.

E.g., 74% FDI in defence manufacturing, 'Import embargo' on 101 military items and Defence Production and Export Promotion Policy 2020.

In line with this, the Government of India is also supporting start-ups and promoting active participation in the industry. Describing MSMEs as 'rising stars' in aerospace and defence, the Defence Ministry estimates that their numbers would double to 16,000 over the next five years (by 2026) as they were integrated into global supply chains.

For example, in September 2020, Dynamatic Technologies Ltd., an aerospace company based in Bengaluru, announced a contract for constructing parts for the T-7A Red Hawk trainer, one of the largest and most advanced aircraft programmes built by Boeing and Saab in the world.

India has the competitive advantage over other countries due to low-cost production of components. With low labour cost,

The civil aviation industry in India has emerged as one of the fastest growing industries in the country during the last three years

presence of resources and supporting government regulations, the country provides huge growth opportunities in the aerospace industry. The sector, backed by the government's "Make in India" policies, promotes global players to invest in the manufacturing process and optimise it.

Further, India is considered a strategic geographical location and significant international market with high aircraft demand, technical skills and competitive labour costs by Boeing, Airbus and other leading OEMs. To meet the needs of Tier 1 suppliers and build an aerospace industry ecosystem in the country, manufacturers worldwide are partnering with Indian suppliers and small and medium enterprises. Active participation of global players is expected to further boost growth of the aerospace industry in India. •

LEAD STORY

Hindustan Aeronautics Limited (HAL) Is Shaping India's Future Ahead Of Time

By N V Vijayakumar


C B Ananthakrishnan

Hindustan Aeronautics Limited (HAL) is shaping India's future ahead of time by harnessing new tech capabilities by playing important role aerospace and defense industry.

HAL began aircraft manufacturing as early as 1942 with licensed production of Harlow PC-5, Curtiss P-36 Hawk and Vultee A-31 Vengeance for the Indian Air Force. HAL currently has 11 dedicated Research and development (R&D) centers and 21 manufacturing divisions under 4 production units spread across India.

HAL is currently involved in designing and manufacturing of fighter jets, helicopters, jet engine and marine gas turbine engine, avionics, software development, spares supply, overhauling and upgrading of Indian military aircraft

Besides Light Combat Helicopter (LCH) and Light Utility Helicopter (LUH), HAL is known for its Light Combat Aircraft (LCA) Mk1 FOC aircraft and LCA Trainer along with futuristic programmes.

The defense PSU is undertaking the production of LCA Mk1 FOC aircraft and LCA Trainer, heralding "Atmanirbharta" or self-reliance in building India's military requirement. 15 LCA Mk1 FOC fighters have already been produced so far and production of balance 1 fighter aircraft and 8 trainers are under progress.

The LCA Tejas Mk1A is an upgraded version of Mk1 with AESA radar, EW suite, BVR missile capabilities and various maintenance improvements. The LCA Tejas Mk1A is helping HAL to further develop its next range of fighters like Tejas Mark2 (the firth generation fighter called as the Advanced Mdium Combat Aircraft (AMCA) and the Twin Engine Deck Based Fighter (TEDBF).

SYSTEM INTEGRATOR MODEL

HAL Chairman and Managing Director C B Ananthakrishnan says that the organisation is playing the system integrator model and has created a national aerospace ecosystem with the participation of approximately 140 design agencies and 100+ production agencies along with ore than 200 Indian companies including MSMEs and startups.

"HAL has collaborated with private companies for various projects. A significant amount of the workload has been sourced through private companies/MSMEs across India. HAL has developed multiple vendors including MSMEs for manufacturing of parts and assemblies across India. These vendors have upgraded themselves to aerospace industry standards and have become a part of aerospace manufacturing ecosystem in India," said HAL Chairman and Managing Director C B Ananthakrishnan.

The in house development of Light Combat Aircraft (LCA) will give major boost to the modernization program of our Defense Services. For production of LCA, a separate LCA Tejas Division was established at Bangalore in March 2014. Also, India is talks with Egypt to sell LCA and15 Tejas fighters with Argentina.

A new integrated facility for manufacturing of indigenous Light Utility Helicopter (LUH) is inaugurated at Tumakuru near Bengaluru for which the foundation stone was laid on 3rd January 2016. HAL has successfully flown Light Utility Helicopter (LUH) from the Greenfield Helicopter Manufacturing facility, Tumakuru on 29th Dec 2018.

Aviation platform development involves technical challenges especially in spin clearance. HAL undertook major modifications on the aircraft to bring its spin characteristics to the desired level. Post modifications, flight testing has resumed and in January 2022, HJT-36 demonstrated its ability to carry out six turn spins to both sides. We have plans to complete the

remaining activities to achieve the certification at the earliest.

The production lines established for Hawk AJT are currently available and being utilised for providing spare support to IAF/ IN as per their requirements. Su-30 MKI Su-30 MKI aircraft constitutes largest fleet of IAF and the facilities were established for production of Su-30MKI aircraft, its engine and aggregates at five geographic allocations i.e. at Nashik, Koraput, Lucknow, Korwa and Hyderabad.

FIGHTER TRAINER (HLFT-42)

HAL is going ahead with its plan to unveil the design of the scale model of the Hindustan Lead-in Fighter Trainer (HLFT-42), at the 14th edition of Aero India.

With the tagline "the storm is coming", HLFT-42 is the 'Next Gen Supersonic Trainer' that will play a "critical role" in modern combat aircraft training with state-of-the-art avionics like Active Electronically Scanned Array, Electronic Warfare Suite, Infrared Search and Track with Fly by Wire control system.

According to Arvian Research, HAL had done the project in the past names HF24 Marut. " Marut means spirit of the winds. Pawanputra as shown on tail is a natural descendant of Marut. This aircraft has a similar configuration. HLFT-42 is the 'Next Gen Supersonic Trainer' that will play a "critical role" in modern combat aircraft training with state-of-the-art avionics like Active Electronically Scanned Array, Electronic Warfare Suite, Infrared Search and Track with Fly by Wire control system," states Arvian Research.

HAL has completed production of 222 Su-30MKI aircraft as per IAF orders. These production facilities are now being utilised to fulfil the operational requirements of IAF for production of additional engines, aggregates and on-board equipment which are required to be replaced over the total life cycle of Su-30 MKI aircraft.

The production-range items required for repair and overhaul of Su-30MKI aircraft, AI-31 FP Engine, rotable repairs and RMSO requirements of IAF, are also being manufactured using these facilities.

Further to meet the increased IAF requirement, enhancement of Su-30MKI ROH facilities is under progress. The existing facilities for Su-30MKI Aircraft manufacturing are also being utilised for this ROH enhancement. Simultaneously, various indigenous modifications and weapon integration schemes are being developed and incorporated to increase the operational capability of Su-30MKI aircraft.

Further, HAL is pursuing with IAF for additional production orders for 12 Su-30 MKI Aircraft. Recently HAL has also received RFP for supply of additional 240 Nos of AL-31FP engines for Su-30MKI.

The Nashik division has been given the responsibility to produce indigenously designed and developed HTT-40 basic trainer aircraft for IAF. Establishment of production line for the LCA-Wing Assembly is also under progress at Nashik.

ENGINE DEVELOPMENT

HAL has successfully received certification for four of its engines in the small and starter engine category for the first time in the country. viz. 4 kN thrust turbojet engine (PTAE-7) used on Pilotless Target Aircraft (PTA), 110 kW power turbo shaft engine (GTSU-110) for starting the Light Combat Aircraft (LCA) engine and its upgrade GTSU-110M2 and 60 kW starter generator engine for starting AI-20D engine ofAn-32 aircraft.

Air Turbine starter for starting Adour-804 and Adour-811 engine has been indigenously designed, developed, certified and 40+ units have been supplied to IAF. Technology demonstrator units of air producer engine for starting Adour-811 and 871 engines of Jaguar and Hawk aircraft, auxiliary power unit for FGFA class aircraft have been built and are in various stages of evaluation.

The indigenous PTAE-7engine is being modified to suit to the requirements of CATS-W and CATS-H applications. Upgraded GTSU/JFS starter engine with 135 kW power for LCA-Mk-IIalso is in prototype manufacturing stage.

HAL is trying to provide one stop solution for all starter engines indigenously. Auxiliary power unit and air turbine starter for AMCA are also in the pipeline. Our prestigious development projects in medium category engines are Hindustan Turbo Fan engine (HTFE-25) of 25 kN thrust for trainer aircraft, UAVs and Hindustan Turbo Shaft engine (HTSE-1200) of shaft power rating which can power light and medium weight helicopters (3.5 to 6.5 tonnes in single/ twin engine configuration).

Significant progress has been made with successful trial runs of core and jet engines up to 100% rpm. Core engine of HTFE-25 and Jet mode engine of HTSE-1200 have

been tested for performance at Sea Level and at 3.5 km altitude. The same have been tested for high altitudes at 4.5 and 5.8 km.

Technology demonstrator engines of HTFE-25 full engine and HTSE-1200 power mode engine have been built and are at various phases of testing. HAL is confident of achieving the targeted design parameters and productionising these engines as planned.

The Company takes up maintenance and overhaul services to cover the life cycle requirement of all the old and new products. Presently, 13 types of Aircraft/ Helicopters and Engines are being overhauled. In addition, facilities exist for repair/ overhaul of various Accessories and Avionics fitted on Aircraft of Russian, Western and Indigenous designs.

In line with HAL's mission to become a global player, Exports have been identified as one of the thrust areas. HAL has supplied Dhruv, Lancer, Chetak & Cheetah helicopters and Do-228 aircraft to international customers and is also providing product support for the above platforms. The company has established its credibility through supply of high precision structural & composite work packages, assemblies, avionics etc to Global Aviation majors like Airbus, Boeing, Rolls Royce, IAI, Rosoboronexport etc.

Highlight: The major on-going indigenous development programs are the Light Combat Aircraft (LCA) MK 1A, Light Combat Helicopter (LCH), Light Utility Helicopter (LUH), Basic Turboprop Trainer HTT 40 & Indian Multi Role Helicopter (IMRH). Design and Development of HTFE-25 and HTSE-1200 engines have also been taken up.

Highlight: Current upgrade programs include Jaguar DARIN-III upgrade, Mirage upgrade and Hawk i. In addition to the platforms, various Technology development projects have also been launched to increase self-reliance in critical areas like the Aircraft Display systems, Mission Computers, Automatic Flight Controls for Helicopters and Aircraft Accessories & Avionics. •

DEFENSE STARTUPS

Indian Defense Startup Makes Global Impact

The NFAPost News Service

Innovations for Defence Excellence (iDEX) initiative, launched under the Defence Innovation Organisation (DIO) under the Ministry of Defence, has enabled talent from across the country to come forward.

Backed by tri services, DPSUs, Coast Guard as well as organisations under the Home-Ministry are giving problem statements to our youth, who are rising to the challenge every time.

The new startup culture in India is supporting its youth to innovate, thereby empowering them to become job creators and manufacture indigenous defence products and reduce our dependence on imports.

With approximately one lakh startups and more than 100 Unicorns, Indian startups have made deep impact. Led by its innovative competencies, startups are helping in reinforcing emergence of India at the global arena.

Defence Minister Rajnath Singh said he is overwhelmed by the success of the Indian Defence start-up ecosystem at iDEX.

"It has helped the development of several home-grown technologies and has provided an important platform to showcase innovations and technological developments. Startups that have developed because of iDEX are also getting orders, which has fostered the Start-Up ecosystem in the country," said Defence Minister Rajnath Singh.

The Minister pointed out that iDEX has also given professionals the opportunity to understand futuristic technologies like Artificial Intelligence, Augmented reality, and Block-chain.

iDEX has introduced several innovators to the market, leading to direct and indirect employment generation for our skilled, and semi skilled workers. In recognition of its impact, the platform was given the PM Award in the Innovation categor.

To fuel startup growth, the Ministry of Defence has established a simplified, fast track procedure for procurement from startups and MSMEs due to their employment generation potential. He said that iDEX has contributed to Aatmanirbharta in the Defence ecosystem and emphasised the government's commitment to support entrepreneurs through new opportunities and facilitate development of technologies through policy interventions. To this end, the government has introduced various grants to encourage innovators and start-ups/.

According to Defence Analyst with Arvian Research, India could not take advantage of the industrial revolution due to colonialism, which continues to affect several third world countries.

"It is high time that we should change the parameters of competition to enable developing countries to catch up. There is a need to re-define competition for development and move away from reliance on obsolete technologies and systems of production. Innovating in new sectors will enable India to reduce the gap between nations," Arvian Research.

DISC 9 is the first collaboration of iDEX with Indian Cyber Crime Coordination Centre (i4C) division of Ministry of Home Affairs. These challenges have been curated from Services, DPSUs, and Ministry of Home Affairs, revealing the deep impact and interest iDEX has generated amongst our Defence industry.

The winners of DISC 6, first three editions of iDEX Prime, and Open Challenge 5 & 6 were also felicitated. Phase 1 winners of challenges under Mission DefSpace were announced and felicitated. Innovators showcased futuristic technology developments in the domains of Autonomous Systems, Advanced Sensors, Space Technology, and Industry 4.0 at a static exhibition of start-ups supported by iDEX-DIO.

The 'iDEX Investor Hub' aims to accelerate investment in the Defence sector and give investors a unified view of opportunities and innovations. Defence Innovation Organisation (DIO) also signed MoUs with leading investors at Manthan. Another MoU was signed with Axis Bank.

DIO has also signed MoUs with ISRO, IN-SPACe, and ISpA to further strengthen the Defence Space. Another MoU was signed with the Border Roads Organisation (BRO) to potentially launch start-up challenges in the future. The fourth edition of Innovate4Defence internship (i4D) was also launched, inviting applications from students all over India.

Indian Army's compendium of 110 Problem Statements for indigenous defence research, design, development and manufacturing ecosystem. The Problem Statements highlight Indian Army's technological challenges and requirements in various domains ranging from Armament, Surveillance & Fire Control Systems to niche domains such as Artificial Intelligence, Blockchain, Metaverse, Robotics, Quantum Technology, Cyber, Smartisation of Ammunition etc.

Further, they also involve induction of new technologies, upgradation of existing systems & indigenisation of critical components. This Compendium would enable focused efforts towards modernising the Indian Army with indigenous solutions, thereby building a stronger and Atmanirbhar Bharat. Industry and Academia will be hand-held by Indian Army through various research and development routes including iDEX, Technology Development Fund (TDF) and Army Technology Board (ATB).

iDEX-DIO also signed its 200th contract with a winner of the Indian Navy Prime challenge launched under the SPRINT initiative. •

Maini Precision Products Ltd Is Expanding Global Footprint

Maini Precision Products Ltd., (MPP) – the flagship company of the Maini Group – was formed in 1973 and has, over the years, established itself as a leader in both the global as well as Indian market in the Automotive, General Hydraulics and Aerospace sectors as a strategic sub-tier partner.

MPP made its first foray int the high-tech aerospace manufacturing sector in 2004 and has since continuously moved up the value chain. Starting out as a machining supplier, with offerings that included machined & die castings, machined forgings, bar route & plate machining, MPP today offers customers end-to-end solutions for their requirements.

MPP is a pioneer in the export of international quality, high precision machining components to OEMs worldwide. MPP was incorporated almost 50 years ago – at a time when India was not yet known for manufacturing high-technology automotive components.

The company has the distinction to be the first Indian company to supply high-precision automotive components to Bosch, Germany in the early 80s and to General Motors, USA in 1994. With over Rs 5708 million in revenue in FY20, Maini Precision Products (MPP) is among the leading precision components exporters from India in terms of contribution to overall revenues (as per CRISIL Limited).

MPP provides end-to-end solutions in process design, engineering, manufacturing, testing, and supply of a

variety of precision products and assemblies. MPP has 11 manufacturing facilities, which are located in Bangalore, India and third-party warehousing facilities situated in the USA and Europe.

MAKE IN INDIA FOR AN AATMANIRBHAR BHARAT

As an eco-system integrator, MPP forms an important part of the customer's design and development process. Our team is able to manage the complete supply chain – right from the procurement of raw material to ensuring high-quality sheet metal and composites through our ecosystem of trusted partners, matured over decades.

MPP has worked tirelessly with our partners to ensure high-quality forgings and castings, as well as special processes, which are critical in the Aerospace industry. With rigorous development work in manufacturing engineering and technology, and focus on providing solutions to our partners, MPP is now equipped to develop entire kits and as well as do assembly or sub-assembly work.

The downtime during the COVID-19 pandemic was utlised to develop capabilities and enhance available capacity, creating the ability for MPP to go from spec to new part development in a short period.

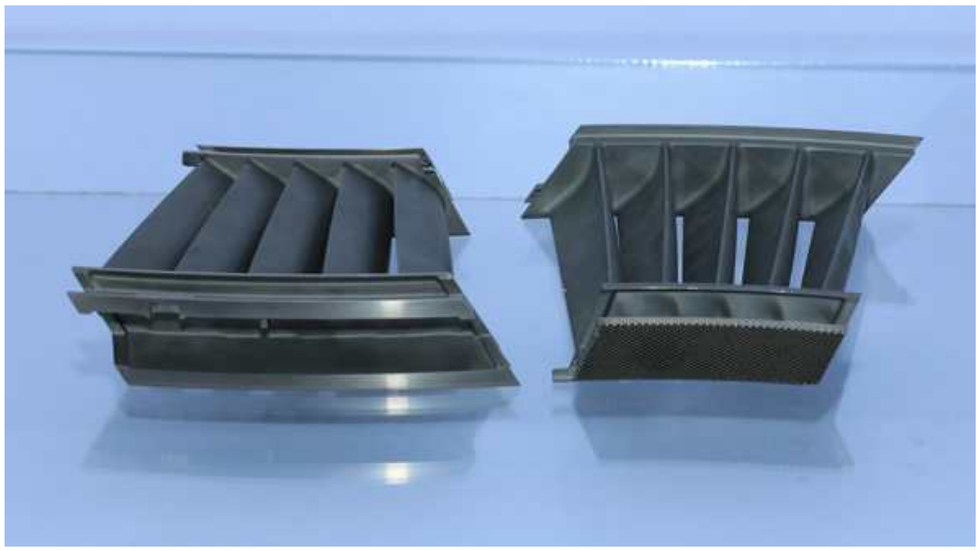
In 2017, a dedicated 135,000 sq. ft. Aerospace plant was inaugurated in Bommasandra, on the outskirts of Bangalore in Karnataka. Some of the key features of MPP Aerospace Division are as below:

- MPP facilities have been duly certified in accordance with international standards of quality management systems, environmental management systems, health and safety management systems and specialized processes, including IATF 16949, AS 9100 Rev. D, NADCAP accreditation for NDT and welding, ISO 14001 and ISO 45001.
- Dedicated 35,000 sq. ft. hangar for structural sub-assembly and large machining
- MPP has 696 machines, which included CNC sliding headstocks, CNC turning centres, CNC multi-spindle automats, CNC turn mill centres, CNC mill turn centres, CNC horizontal machining centres, CNC vertical machining centres, hobbing machines, CNC honing machines, CNC broaching machines, CNC gun drilling machines, CNC welding machines, CNC Grinding machines, lapping machines, electro chemical deburring machines, CNC transfer machines, as well as FSPMs for cross-drilling, pressing, crimping, bend removal, deburring, drilling, and milling. The CNC machines cover wide range of machining capabilities including 3-axis, 4-axis and 5-axis, with a maximum profile size of three metres in the 5-axis machines.
- CNC electric discharge machining, vacuum brazing, 5-axis grinding and an NADCAP approved Tungsten Inert Gas (TIG) welding facility are available at the MPP facility
- In-house Fluorescent Penetrant Inspection (FPI) and Magnetic Particle Inspection (MPI), supported by a ASNT Level III Certifier.
- A fully operational, dedicated facility created for the manufacture of Nozzle Guide Vanes for LEAP Engines.

Across the spectrum of verticals in which MPP is present, the team takes pride in the capability to deliver high-tech solutions that contend with the best in the world. 19 years after MPP was formed, three verticals were integrated into the business – Aerospace Engines, Aircraft Systems and Aero Structures.

MPP is well positioned to supply to the aerospace industry, on account of the experience and long-standing relationships with various international customers. MPP's experience in aerospace commercial programmes has also enabled the company to venture into the defense market for land, airborne and naval platforms. MPP is associated with defense majors based in USA, Europe and Israel for a range of defense programmes.

Every company in the Maini Group is an innovator and leader in its field, with a keen eye on the Group's future. From



inception, the Maini Group has been synonymous with cutting-edge technology offerings for the automotive, aerospace and defence industries, industrial equipment, hydraulics and off-road vehicles, hangar racking and storage solutions, battery powered MHEs, battery swapping technology for EVs and introducing the 'first commercially sold electric car in India - Reva. Be it precision products, plastics or composites, ours are the benchmarks we set for ourselves puts us ahead of the field on the parameter of technology.

THE MAINI GROUP

Founded in 1973 by Dr. S. K. Maini, Maini Group is one of India's premier design and manufacturing entities, synonymous with innovation & cutting-edge technology. The group offers comprehensive solutions in

- High-precision engineering components and Sub-Assemblies for Aerospace, industrial, automotive and other sectors
- In-campus material handling, people movement & aviation
- Industrial Racking & warehousing
- Vacuum forming parts & sub-assemblies
- Electric vehicles & energy infrastructure

The Maini Group's strategic alliances with international leaders further strengthen its capabilities to deliver value. In keeping with the Maini DNA, each group company builds relationships, integrates expertise and innovates continuously towards a future without boundaries.

For the last 50 years, the Maini Group has been Making in India & for the World.

The Group has a track record of forward-looking innovation being pioneers of India's first 'mass produced' green electric car – Reva. The design and manufacturing technology is entirely indigenous, developed and implemented by Maini, in India, for the world.

THE COMPANIES:

Maini Precision Products Limited

- Forayed into Aerospace Manufacturing in 2004, and has, over the years, integrated three verticals within its business, namely aerospace engines, aircraft systems and aero structures
- Successfully delivered various complex products for aerospace engine assemblies.
- Over 696 CNC machines across 11 different facilities
- Supporting the world's major Aerospace OEMs & Product Suppliers for high precision machined components & sub-assemblies
- End-to-end solution provider for castings and Forgings through the ecosystem
- Technical know-how and capabilities in handling simple and complex parts made from Titanium, Inconel, Stainless Steel, Aluminum, etc.

Maini Materials Movement Pvt. Ltd

Industrial Sectors: Aviation, Railways, Hospitality, IT, Tourism & many more

First in India:

- to introduce battery-operated MHE
- to design and manufacture dock levelers in India
- to launch the concept of Total Solutions & Complete Customer Care in the Material Handling Industry
- to design & manufacture battery operated buggies in India

Maini Plastics & Composites Pvt. Ltd.

- Manufacturer of vacuum-formed components
- Core Competencies: Design, proto-sampling, patterning, tooling, routing, and vaccum forming

Virya Mobility 5.0 LLP

- Develop technologies that facilitate and accelerate the implementation of electric mobility. Offers complete range of e-mobility solutions, encompassing electric powertrains, vehicle integration and charging solutions.

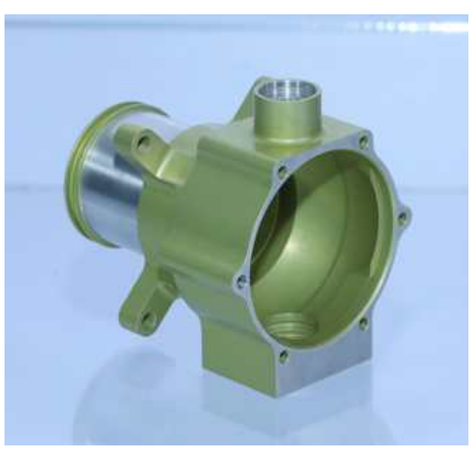
Sun Mobility Private Limited

SUN Mobility offers energy-infrastructure-as-a-service to electric 2-wheelers, 3-wheelers and buses using proprietary technologies that include:

- Smart Batteries
- Quick Interchange Stations
- Smart Network

Armes Maini Storage Systems Private Limited

- Comprehensive storage and warehousing solutions comprising heavy duty pallet racking, boltless multipurpose shelving, mezzanines, etc.



LEAD STORY

'The right collaboration can accelerate India's defence programmes and build strategic capability'

By Alex Zino

Indigenisation in defence is critical for achieving self-reliance and developing capabilities within the country. India has already taken several steps towards the creation of a domestic defence manufacturing ecosystem with the support of the private sector and global partners.

The evolution of its indigenisation policy towards co-development and co-production in partnership with global companies has also provided the much-needed impetus to the growth of the local defence industry. With geopolitical and economic crises affecting world stability, a robust and self-reliant defence ecosystem will help develop India's strategic capability, boost manufacturing and exports as well as contribute to economic and security resilience.

While efforts in this direction have been significant, India can accelerate its progression towards critical technology

development and ownership through programmes that will lead to the creation of technological capabilities within the country. This will ensure long-term benefits and opportunities for further customisation and exports.

The Indian government's goal of achieving true self-reliance will actually be realised through end-to-end capability creation and ownership of intellectual property (IP). Here, a mutually rewarding partnership with a willing ally could prove beneficial.

The United Kingdom is one such country that is ready to go one step further, enabling not only technology transfer but the co-creation of capabilities in-country. The UK industries, with the support of the UK government, have a proven history of partnerships with other nations that have resulted in successful programmes. These include the EJ200 (developed with Germany, Spain and Italy) and the ongoing next-generation Global Combat Air Programme (being developed in collaboration with Italy and Japan), wherein Rolls-Royce has played a critical role in the success of the collaboration. With a proven legacy of technology development collaborations and demonstrated technical know-how, the UK can complement India's own technical and resource strengths and capabilities for joint development. As the two countries have pledged their commitment to greater cooperation in defence and security, it is an opportune time to build on the relationship.

Rolls-Royce is well-positioned to support such a collaboration with its ecosystem of strategic local partnerships, strong supply chain, rich talent pool, digital solutions and service delivery capabilities in India. We have been serving the Indian armed forces for nine decades and are committed to strengthening this relationship. Rolls-Royce's India presence is backed by over 100 years' experience in engine design, development and manufacturing, particularly in the complex, gas turbine-based aero-engine segment. All these factors make us a potentially game-changing partner for India's combat engine programme. We are offering a co-development model that leads to IP ownership in India, naturally followed by co-production and co-manufacturing opportunities. Such co-development will result in the creation of capability in-country to indigenise defence technologies.

India's defence industry is at a transformational tipping point. Aimed at rapid indigenisation, the government's efforts have been directed towards revamping the manufacturing ecosystem with a focus on technological innovation, enhancing capacity and building a robust supply chain to meet both domestic and international demand. At this point, a strategic collaboration that results in both technology and capability creation would accelerate India's goal of becoming a leading global defence hub. •

Authored article by Alex Zino

C-DAC Is Developing India's First Indigenous Microprocessor

The NFAPost News Service

Bengaluru, NFAPost: Taking the government's indiginisation to the next level via Atmanirbhar Bharat, the Centre for Development of Advanced Computing (C-DAC) is working on the country's first indigenously designed and developed family of microprocessors.

C-DAC Director General Magesh Ethirajan said C-DAC's roadmap for processors is aimed at helping the country become self-reliant in microprocessors development using indigenous design.

"C-DAC had achieved significant progress in the development of the VEGA series of dual-core and quad-core microprocessors and two designs are ready for fabrication," said C-DAC Director General Magesh Ethirajan.

The first one is a 32-bit embedded processor which could be used in smart energy meters, smart water and gas meters, IoT devices, multimedia processing and AR/VR application, Ethirajan added.

"It is a low power, low footprint and low-cost chip which could be deployed for wider applications," said C-DAC Director General Magesh Ethirajan.

The technology has been developed and distributed to institutes to further development. They had set an ambitious target of meeting at least 10% of the country's microprocessor requirement, Ethirajan said.

The company was working closely with industry which could absorb this technology and make it a part of their next-generation product. C-DAC was also directly approaching end-users including government and utility companies, the DG said.

World Bank funding for state government mandates the use of smart metering for water delivery, so a large quantity of procurement would happen in this segment, Ethirajan said. They had set an ambitious target of meeting at least 10% of the country's microprocessor requirement, he added.

The country depends on imports for its microprocessors and C-DAC wanted to reduce this dependence. Apart from C-DAC's Vega series of processors, IIT Madras has developed the Shakti series of microprocessors and has also made significant progress in this initiative of making the country self-reliant.

C-DAC has also developed another microprocessor Teja, which is a high-end 64-bit chip 180-nanometer technology. This is being fabricated at the semiconductor laboratory foundry in Chandigarh. Once these are ready, this would be launched in the market soon, the C-DAC DG said.

Col A K Nath (retd), executive director, C-DAC, said they were open to collaborating with the Indian industry partners for manufacturing indigenous products based on its in-house design.

Next year, they would start work on the next-generation processors – Dhruv and Dhanush Plus – and finally the octa-core processor in three years.

Under the ministry of electronics and information technology's (MeitY), National Supercomputing Mission (NSM) programme, a power-efficient AUM HPC processor based on ARM architecture is being designed.

C-DAC has also indigenously designed and developed a computer server, Rudra. Rudra, along with the AUM processor and Trinetra interconnect technology would help the country achieve self-reliance in supercomputing, Nath said.

C-DAC has a target to achieve 64 PetaFlops (PF) of cumulative compute power across the country by the end 2024. The 40 PF compute power will be based on the indigenously developed Rudra servers being manufactured in India. Supercomputing systems with a cumulative computing power of 24 PF have already been deployed at various premier academic institutions across the nation.

C-DAC has signed a contract with VVDN Technologies for the manufacturing of C-DAC's Rudra servers. These servers will be used in the upcoming PARAM series of supercomputers to be built under NSM. Rudra server is designed as a dense form factor and targeted for HPC and hyperscale data centres. The transfer of technology for manufacturing of C-DAC's Rudra server was already under process.

The one PF supercomputing system based on the Rudra servers is going to be installed at the Giant Metrewave Radio Telescope (GMRT) observatory under National Centre for Radio Astrophysics (NCRA). It would be conducting a real-time commensal search for Fast Radio Bursts and Pulsars.

This instrument aims to discover more than a few hundred fast transient sources with host galaxy associations over the next few years of scientific operation. The demanding real-time application would be an acid test for the resilience and robustness of the technology developed by C-DAC, Nath added. •

Dell Technologies, Alienware Unveil Alienware Aurora R15 Desktop In India

The NFAPost News Service

New Delhi, NFAPost: Dell Technologies and Alienware launched the new Alienware Aurora R15 in India. Unleashing the maximum potential of passionate gamers, the Alienware Aurora R15 is equipped with 13th Gen Intel® Core™ series processors and a 240mm AIO cooler (Up from 120mm in its predecessor).

The device comes with the optional NVIDIA® GeForce RTX™ 4090 GPU thereby supporting the highest-end performance and offering breathtaking visuals. The updated thermal strategy, redesigned motherboard, and other superior advancements make the Alienware Aurora R15 a powerhouse regen of the Aurora lineup.

Commenting on the launch, Dell Technologies Director for Product Marketing – India Consumer Pujan Chadha said as the aspiration of premium gaming devices keeps increasing, Dell is committed to constantly satisfying these challenging demands and offering the best gaming experience to its audience in India.

"The Alienware Aurora R15 is another testament to how our high-end gaming technology is helping turn these aspirations into reality. With the latest Intel Raptor Lake processors, support for GTX 40 series graphics cards and massively improved thermal strategy, this device is a beast with reimagined capabilities in the Aurora lineup," said Dell Technologies Director for Product Marketing – India Consumer Pujan Chadha.

Crafted for the pleasure of gamers

Improved cooling, increased power, and better acoustics – the Alienware Aurora R15 has it all covered. With the revamped thermal strategies such as hexagonal side vents for increased airflow, doubled size heat exchanger (240mm) and the Cryo-tech™ liquid cooling technology, this device achieves 5% lower CPU temperatures while delivering 58% more power.

This means the smoothest of gaming experiences during the most rugged times of usage alongside extremely improved acoustics under CPU as well as GPU-intensive tasks (66% and 32% respectively[ii]). Additionally, with new power thresholds of up to 1350W, the device is geared up to be future-proof and fuels the most power-hungry configurations.

Supercharged performance for gaming glory

The Alienware Aurora R15 offers the best of both worlds; the 13th Gen Intel® Core™ series Raptor Lake CPU and up to NVIDIA® GeForce RTX™ 4090 graphics card, meaning the perfect setup for gamers' paradise – ray-traced 4K gaming at 60+ FPS and enhanced overclocking.

It also has the NVIDIA DLSS 3 AI (Artificial Intelligence) technology for AI-based acceleration, the NVIDIA® Reflex technology for an intelligent response, the NVIDIA® Broadcast App and the NVIDIA® Ada Lovelace Architecture for the ultimate gaming experience.

The Alienware Aurora R15 also sports an internal architecture designed to support greater power and higher wattage. Overall, right from the arrangement of cooling components to the repositioning of graphics and laying of slots, the device is an engineering phenomenon that prioritizes speed, performance, and gameplay for thunderous gaming experiences.

Legendary design

The Alienware Aurora R15 is based on the Legend 2.0 design that offers better performance than ever before in an optimized chassis. This means a 360 approach to style and practicality inside a spacious internal layout, convenient I/O ports, and thoughtful cable management solutions. It also provides a wide variety of ports that ensure minimal airflow obstruction whilst also retaining or even improving the legacy Alienware aesthetic.

The goodness of Alienware

Upgrading its precious Alienware Command Center, the latest version of the application includes auto-tuned game profiles, thermal controls, intuitive overclocking options, and easy-to-customize AlienFX settings. The AlienFX software on the Alienware Aurora R15 supports up to 16.8 million RGB colours and its customizable lighting capabilities help manage both internal ambient colours as well as traditional lighting areas.

Availability - The new Alienware Aurora R15 will be available for purchase at the Dell Exclusive Stores and Dell.com. •

AMD Launches Ryzen 7020 Series, Athlon 7020 Series Chips In India

The NFAPost News Service

The new processors also come with a new modern platform and advanced technology support, including Modern Standby, Wake-on-Voice, and Fast Charging

New Delhi, NFAPost: Chipmaker AMD has launched the new Ryzen 7020 Series and Athlon 7020 Series Processor lineup for mobile in India, which are meant to power lower-cost and lower-powered "everyday laptop" devices.

The company said the Ryzen and Athlon 7020 Series Processors for mobile will deliver excellent everyday performance and up to 12 hours of battery life so users can get the most out of their laptops.

"In 2023, in partnership with our OEMs, AMD will deliver high performance, affordable laptops based on the 6nm 'Zen 2' enhanced architecture to provide improved efficiency for work, play, and connectivity," Vinay Sinha, Managing Director, Sales, AMD India, said in a statement.

Moreover, built on TSMC's (Taiwan Semiconductor Manufacturing Company) advanced 6nm manufacturing technology, the new series of processors for mobile will offer the perfect balance of speed, style and endurance.

With smart battery management and dedicated video and audio playback hardware, systems featuring the new processors are ideal for video conferencing and collaboration, office productivity and multitasking, according to the company.

Further, the chip-maker mentioned systems featuring new processors are Windows 11 ready and feature a Microsoft Pluton security processor for full support of Windows 11 security features.

The new processors also come with a new modern platform and advanced technology support, including Modern Standby, Wake-on-Voice, and Fast Charging.

Over 90% of laptop users surveyed say "being on the go" with their system is important, and on average use their laptops on battery for three hours a day. On the extreme end, almost a third of respondents spend up to ten hours a day on battery power.

The combination of TSMC 6nm technology and the innovative Ryzen 7020 architecture allow AMD Ryzen processors to deliver premium system battery life at a mainstream system price point – up to 12 hours of unplugged power1. The Ryzen 7020 Series Processers also offer best-in-class performance, with up to 58% faster multitasking and 31% faster application launch speed than the competition on the AMD Ryzen 3 7320U CPU2.

Thanks to the AMD RDNA 2 graphics architecture, AMD Ryzen and Athlon 7020 Series processors for mobile support up to 4 displays powered by the integrated Radeon™ 610M Series graphics and advanced decode support3 for high-resolution streaming.

Systems featuring Ryzen and Athlon 7020 Series processors are Windows 11 ready, and feature a Microsoft Pluton security processor4 for full support of Windows 11 security features. The new processors also come with a new modern platform and advanced technology support, including:

Modern Standby • Wake-on-Voice • Fast Charging • Fast LPDDR5 Memory

Systems featuring Ryzen and Athlon 7020 Series processors for mobile are expected to be available from global OEM partners including Acer, HP and Lenovo beginning in Q4 2022, starting at an SEP of $399 USD.

AMD Ryzen™ 7020 Series Ecosystem Support

Acer: "From thin-and-lights to rugged laptops, Acer provides a wide variety of products for customers with different needs," said James Lin, General Manager, Notebooks, IT Products Business, Acer Inc. "With the introduction of AMD Ryzen 7020 Series processors, the new Acer Aspire 3 14 and Aspire 3 15 laptops with the new processors provide the perfect blend of performance and value."

HP: "With the new HP 17 inch Laptop PC – powered by Ryzen 7020 Series processors – people will have the freedom and flexibility to work and play however and whenever they want," said Jo Tan, Global Head of Consumer PCs, Personal Systems, HP Inc. "Together with AMD, we're delivering the performance and experiences our customers need to stay connected, productive, and entertained."

Lenovo: "We're taking speed and efficiency to a new level in collaboration with AMD," said Ouyang Jun, Vice President and General Manager of the Consumer Business Segment, Intelligent Devices Group. "With the trusted power and efficiency of AMD Ryzen processors, our next generation of consumer PCs, such as Lenovo IdeaPad, will offer the performance required for everyday multitasking and collaboration – all while fitting into a wider range of budgets."

Microsoft: "We are excited to see the deep AMD and Microsoft co-engineering collaboration come to life on Ryzen 7020 Series processor-powered systems enabled with Windows 11," said Pavan Davuluri, CVP Windows Silicon and Systems Integration. "Premium experiences don't have to come at a premium price as customers will enjoy things like stellar battery life, graphics performance with RDNA 2, and security capabilities with VBS acceleration and chip-to-cloud security features enabled by the built-in Microsoft Pluton security processor." •

AMD launched Ryzen 7020 and Athlon 7020 mobile processors for affordable laptops in India.

TECH TRENDS

3i Infotech LIMITLESS EXCELLENCE

Top Eight Technology Trends to Watch in 2023

As another eventful year comes to an end, we look to what the year 2023 holds for us. While the macroeconomic issues facing the globe are of worry, not all is gloom and there are upsides too, especially around technology.

The tech landscape has interesting developments simmering which promise to become mainstay in the coming future. Let's delve on the top 8 such trends.

Massive growth in Secure Access Service Edge (SASE)

We are increasingly using a tag line – "Orchestration of Digital Transformation @ Edge". This tagline is being validated by the trends in 2023 with "Everything moving to cloud, and Digitalization penetrating deeper into Enterprises & everything @ Edge".

Edge computing is a new approach to processing data in which operations do not take place within a data centre. Instead, computation and storage occur within localized devices at or near the network's edge. Edge computing will become very popular in 2023 as companies continue their digital transformations and move their data centres to the cloud and then work to ensure their networks are secure.

Some experts are expecting to see a big increase in Secure Access Service Edge (SASE), as at least 40% of companies will look to employ this to secure their networks next year. When cybercriminals do their business next year, many experts will tell you that the threat could have been minimized if only the victims had understood the power of the Edge.

Adoption of Web 3.0

A trend that has already begun taking shape is Blockchain technology powering the adoption of Web 3.0 (aka Web3). Applications requiring transparent and decentralized compute and storage of data in industries benefiting most will start mushrooming.

EdTech is here to stay supporting long/short-term and hybrid delivery

In the field of EdTech 2023, post pandemic most universities are looking to join the bandwagon of online delivery of courses. While many are floating short term online courses, even the long-term course delivery is also going hybrid. EdTech would support and enable universities to manage these hybrids and short-term online courses. Universities would be able to launch courses, register students, collect fee, deliver course content, conduct assessments and give certification within a single platform. This will emerge as a major trend in the EdTech area.

Zero Trust Architecture (ZTA) will come to the forefront

The concept of zero trust (ZT) has been circulating for several years, however with work from anywhere and recent advanced and persistent cyberattacks post pandemic, has brought the need for implementing zero trust architectures (ZTA) to the forefront. Many countries are working with regulatory body to get ZT adoption into the timeframe – making it mandatory especially for BFSI/public sectors across the regions.

5G and IoT to compel businesses to strategize real-time data collection

With the introduction of 5G and the integration with IOT, workplaces will have tons of data to monitor and manage. Every individual will be empowered by their skillsets and knowledge plus a new constantly growing set of requirements that will make it impossible to persist only through existing sets of experience. Businesses will need a strategy for real-time data collection, or they will miss out on the real-time analytics' intelligent twins (5G and IoT) can provide.

For example, investment in sensors and IoT devices to collect data, and the tools to prepare, analyze, and visualize the massive amounts of information gathered that successfully created this next-generation workforce to support a new way of working in the post-pandemic era. Industries will need to focus on Healthcare, Telcos, Manufacturing, Agri, Automotive etc.

Everything will go to the cloud, if not already

There are still businesses around the world with on-premises data centres, but they are moving steadily toward the cloud, be it private cloud, zero-trust sovereign cloud, or public cloud (usually deployed as a multi-cloud solution).

This trend comes with some challenges for businesses and some threats, the biggest of these is the explosive increase in cybersecurity risk. Because cloud computing enables IoT and Work from Home, network security is a completely different game today.

A very few numbers of companies will have the capacity to monitor their own networks effectively and so the industry will witness a growing number of contracts for secure access edge services. This prediction is seen to be already taking shape by several corporations and government requiring zero-trust architectures, and we are bound to see more of this.

Rise in Global Command Centre (GCC) and DaaS

Orchestrating the digital transformation is proving difficult for companies and so the industry is witnessing an increase in demand for support, including Digital Infrastructure Management Services. Another area with a very high growth is the rise of a Global Command Centre (GCC) with NOC – SOC Provisions.

As corporate data moves through disparate legacy systems, security has become a major area of concern. We will be seeing more GCC and Desktop-as-a-service (DaaS) offerings in 2023, which gives the company more control over what data is sent to which authorized users and devices.

More companies will harness AI's cognitive power

Several new technologies are going to make it easier for some companies to harness and make better use of their data. IoT is making it easier than ever to harvest information and 5G will make it faster than ever. But it is the new cognitive services that will prove to be exciting in 2023.

We are going to see more AI and ML adoptions, empowered by these new technologies. This is exciting because it won't just be the very large enterprises that benefit from this, but even the smaller companies will have access to better tools to make decisions that will allow them to compete effectively with larger firms.

While no predictions are completely accurate, I believe these are the top 8 tech trends which businesses should be cognizant of. The ecosystem is rapidly evolving, and we will see few wildcards now and then disrupting the applecart. •

By Thompson P. Gnanam
MD & Global CEO,
3i Infotech

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