



2nd International Conference on

EAMRO

Emerging Trends in Aviation MRO Industry

22 April 2023

Indian Aviation Academy, New Delhi, India

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WELCOME MESSAGE

Respected Delegates,

It is with great pleasure, on behalf of the Organizing Committee, I take the honor and privilege in inviting you to the **2nd International Conference on Emerging Trends in Aviation MRO Industry [EAMRO 2023]** on 22 April 2023 at the auditorium of **Indian Aviation Academy** (A joint venture between Airports Authority of India (AAI), Directorate General of Civil Aviation (DGCA) and Bureau of Civil Aviation Security (BCAS)), New Delhi, India.

EAMRO is an International Conference on Aviation committed to addressing the **Emerging trends in Aviation Maintenance Repair Overhaul** Industry at a global context. In the recent past, Aviation and Aerospace have seen remarkable development in India. Though the progress is significant, the opportunities and possible ventures from the industry are yet to be unmasked. Most people are still unaware of these developments and their impact. The Indian civil aviation sector has grown to become the **3rd largest** in the world in terms of **domestic traffic**.

With several businesses offering various MRO-related tasks for essential hardware including airframes and engines, the MRO industry in India is also rapidly growing. The **MRO sector** is anticipated to grow more than **triple** in **size** over the next **3-5 years** to reach roughly **USD 4 billion** as a result of several political actions and greater private participation. Leading **OEMs** like **Boeing** and **Pratt & Whitney** have worked with Indian enterprises to perform MRO activities in the countries and expand the burgeoning industry by training and strengthening the workforce because of India's potential to become a global aerospace and MRO hub. Notwithstanding India's increasing need for MRO, other nations continue to be a factor in these operations. In the upcoming decades, India is anticipated to become the **Global Hub for MRO** due to numerous government interventions aimed at lowering the cost of starting up those businesses compared to other nations.

With your contribution and participation, the conference will be a key attraction for the delegates, giving access to the most up to date technology and information in the field and promoting direct contact between delegates and industry representatives. I sincerely believe that the Technical Agenda we have put together will provide rich educational opportunities for all delegates.

It is with great pleasure that on behalf of the Organizing Team, I welcome you to India's only MRO Event that is free of charge. Thank you for making this event a grand success.

Looking forward to joining hands with you!

Regards,

A handwritten signature in black ink that reads 'Vaibhav Varun' in a cursive script.

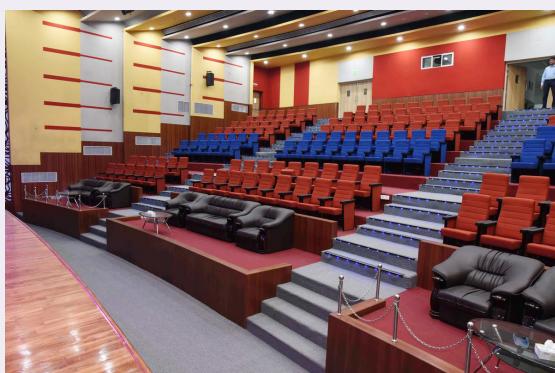
Vaibhav Varun,
Event Chairman – EAMRO 2023

EVENT VENUE



Indian Aviation Academy, Vasant Kunj, New Delhi, India

*A joint Venture between Airports Authority of India (AAI),
Director General of Civil Aviation (DGCA) and
Bureau of Civil Aviation Security (BCAS)*



EAMRO 2023 PROGRAMME

09:00 **Registration & High Tea**

10:30 **Opening Ceremony**

Chief Guest:

Lt. Gen. Ajay Kumar Suri,

Director General & Colonel Commandant, Army Aviation, Indian Army

Guest of Honor:

Dr. Sudhir Kumar Mishra,

Former Director General, Defence Research and Development Organisation (DRDO)

Invitees:

Air Marshal Sukhchain Singh (Retd.),

Former Air Officer-in-charge Maintenance, Indian Air Force

Shri. R. P. Kashyap,

Director Operations Training DGCA & Indian Aviation Academy

Shri. Vaibhav Varun,

Managing Director, Aviakul Group of Companies

11:00 **[PA-01] Panel Discussion**

Convergence of Civil & Defence Applications in MRO Industry

Historically, the civil aviation and defence sectors have operated separately, having different regulations, certifications, and requirements, though there are several MRO operations and processes that are similar for both defence and civil aviation. Building domestic MRO capabilities requires a significant investment in infrastructure and technology, efficient allocation of resources, for which collaboration between public and private sector is needed and if the processes and resources are streamlined through the convergence of defence and civil aviation sectors, it has the potential to transform the industry significantly by creating a huge value chain. However, Challenges in convergence relates to the existence of different set of regulations and certifications and to converge Civil and Military MRO it is important for the three regulatory agencies DGCA, CEMILAC and DGAQA to have the similar standards for checking airworthiness as is the process followed globally because currently there are substantial gaps in the methodology of approving and certifying organizations.

What are the skills & qualifications that can be rationalised across domains? Is it possible to bring DGCA and CEMILAC regulations in harmony with common MRO process and certification? What role public & private sector can play in achieving this convergence and building a robust MRO ecosystem?

Special Invitee:

Lt. Gen. Ajay Kumar Suri,

Director General & Colonel Commandant, Army Aviation, Indian Army

Moderator:

Col. Kandadai V Kuber (Retd.),

Director - Aerospace and Defence, Ernst & Young LLP



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Panelists

Shri. Anirban Batacharrya, Director, Vector Technorum

Lt. Gen. Dharam Vir Kalra (Retd.),

Former Director General, Ordinance Services, Indian Army

Shri. Mangalam Pandey, Lead - Technical Services, Air India Limited

Rear Admiral Mukul Asthana (Retd.),

Former Assistant Chief of Naval Staff (Air), Indian Navy

Air Marshal Sukhchain Singh (Retd.),

Former Air Officer-in-charge Maintenance, Indian Air Force

12:00

Keynote Lecture

Women in Aviation

The contribution of women in aviation sector have been significant right from the very beginning and there are many shining examples across the globe. But the sad truth is that these examples are very few. While airlines do have women in customer facing jobs on board or on ground, the lack of gender diversity is particularly apparent in technical roles like engineers, air traffic controllers & pilots which also extends to the boardroom because the general sentiment is that women skills and capabilities don't align with the job roles which are majorly technical in nature. Though India leads globally in terms of having the highest number of female pilots, it is still a very meagre number as women continue to face multiple challenges that hinder their optimum growth in the industry. Although various solutions have been promoted to increase the percentage of female pilots in aviation, for example many flight training organisations are encouraging female student pilots through scholarship and other means, still a spectrum of questions and issues remain evident.

What are the socio, economic and cultural barriers to women's advancement in the industry? How can those challenges be overcome and what role can executive search firms play in assisting companies who are actively looking to improve diversity? What role can government and other stakeholders play in making aviation sector a truly gender diverse?

Speaker:

Dr. Harpreet A De Singh, Executive Director, Air India Limited

12:10

Keynote Lecture

Preparing Future MRO Workforce

Skilled workforce is the critical asset for the growth of any industry. In MRO industry particularly, while India does have a large pool of engineering talent, particularly useful in the labour-intensive MRO industry with its high-skill requirements which is also comparatively less expensive than in other Asian MRO hubs, the sector still faces issues like brain drain of engineers and technical experts. The fluctuating demand and instability in the industry proves to be a challenge in retaining the country's skilled professionals and therefore, they look to other industries for work. However, the trends suggested by aviation industry's expansion show that it is expected that over 100,000 prime jobs will be created in the MRO build. Preparing future workers requires investing in training programs that incorporate these new technologies. Also, to make MRO jobs more appealing, educators and industry leaders need to increase outreach and get the word out about the great opportunities available in MRO.



PROGRAM

How traditional educational institutions can transform themselves to accommodate this growing need? What kind of method that one must adapt to transform the existing theory-oriented curriculum? How the better opportunities can be provided at home to retain the brain drain of skilled labour?

Speaker:

Dr. Sundararaj,

Professor & Head, Department of Aeronautical & Aerospace Engineering,
Bharath Institute of Higher Education and Research (BIHER)

12:20

[PA-02] Panel Discussion

Digital MRO: Are we ready?

Today's world is characterized by social and technological change at all levels. Today, digital transformation is not an option but a necessity, which provides a way through which any disruption or future uncertainties could be navigated. And therefore, after pandemic led downturn, digitization of operations, focusing more on achieving efficiency gains and process automation, will be one of the key drivers for MRO industry's return to profitable growth as it will make maintenance and repair processes more effective and cost saving to the industry which is already reeling with many challenges in managing the operating costs. Combining maintenance with logistics and operational data will provide new services that increase safety and availability of the aircraft. Technologies such as digital twins, real-time monitoring of aircraft condition, drone usage and predictive maintenance, could be leveraged by service providers to increase efficiency and cope with the reduced MRO budget of airlines to maintain the companies' competitive ability for the next decades.

And by realizing the significant opportunities and value creation by digitization, as companies rapidly move towards digitization of processes, some key concerns that need to be addressed at all levels are: how can the digitally skilled workforce be prepared? What are the different challenges faced by the industry for adopting fully digital transformation? What are the new age solutions to use data analytic tools, the challenges in modern systems to fully protect data integrity effectively and efficiently within and across organizations? How much of the value can be realized by individual manufacturers, airlines, MROs or lessor at the enterprise level or aircraft level?

Moderator:

Shri. Ashwani Sharma,

Aviation Consultant at Edgevarsity Learning Systems Private Limited

Panelists

Shri. Arun Kumar Bansal, Accountable Manager, Pradhaan Air Express

Shri. Mangalam Pandey, Lead - Technical Services, Air India Limited

Shri. Prashant Gupta, Manager Boeing Fleet, SpiceJet

Shri. Saurav Gupta, Vandana Aircraft Services

13:20

LUNCH

PROGRAM

14:20

Keynote Lecture MRO 2030: Indian Roadmap

Maintenance, Repair and Overhaul plays a critical role in aviation industry and an airline's second highest expenditure goes on MRO which accounts for nearly 15 per cent of total revenues. Along with the expansion of aviation sector, both civil and military, the Indian MRO industry is also growing rapidly, and it is anticipated to grow more than triple in size over the next 3-5 years to reach roughly USD 4 billion from the current USD 900 million because of several political actions and greater private participation. Seeing this significant opportunity, Ministry of Civil Aviation, Government of India has come up with an Indian Roadmap to achieve the feat of making India a global MRO hub by 2030 and has brought up MRO Policy 2021. The Indian MRO Industry is faced with multiple issues and challenges like lack of infrastructure, licensing issues, brain drain of engineers, delayed paperwork and so on and the MRO policy seeks to address these issues to some extent.

With Indian Airline Carriers increasing their Aircraft fleet, whether MROs in India can cope up to the challenge in the next five years? How can India reduce its dependency on Foreign MROs for critical maintenance? How can MROs be made a low capital investment industry to entertain new age entrepreneurs? How can the growth of MRO industry complement and echo the ambitious UDAN and Make in India plans that can complement the growth of aviation sector as a whole ecosystem?

Speaker:

Shri. Pulak Sen, Founder & Secretary General, MRO Association of India

14:30

Keynote Lecture Safety Challenges in MRO

In aircraft maintenance industry, Safety is of paramount importance in ensuring the continuing airworthiness of the aircrafts and safety of the human lives. Safety challenges in the industry include human error, compliance with regulations, fatigue induced by long hours of duty, inherent risks carried by equipment and tools. In ensuring the safety standards, new technological innovations can go a long way. Safety challenges in the industry require a comprehensive approach that includes appropriate training, compliance with regulations, equipment and tool safety, environmental hazard mitigation etc.,

In this context, how can the regulatory authorities ensure appropriate monitoring of the aircraft equipment with the increased fleet size? Can regulatory compliances cope up with the technological advancements to ensure an effective day-to-day operation? What role can MRO Professionals better play in ensuring Safety? what are the new technological innovations that can ensure and further enhance the safety standards?

Speaker:

Shri. Manoj Kumar Paidisetty,
Experienced Government Professional and
Aerospace Engineering Doctoral Candidate

PROGRAM

14:40

[PA-03] Panel Discussion

Challenges in implementing New Age MRO Solutions

In the face of several challenges posed by uncertainties, for every industry technology is now a must have. Particularly, The MRO industry which has been facing many challenges in terms of supply chain disruption, delayed paperwork and so on must align itself with Industry 4.0. The three big forces in technology are enterprise asset management, supply chain management, and engineering document management. These three are now merging and will create a new convergence in MRO. But new age solutions presented by rapid technological innovations in the industry has itself presented several challenges. for instance, the tech know- how can often be complicated at times for the aging workforce and professionals are not equipped with proper training programs to leverage the advantage of technology. The cost of technical and digital transition is huge, creating another obstacle for the industry, which is already facing huge operating costs.

How far companies must go with building out integrated MRO systems full of valuable information? How can the employees on board be equipped with training up to date with technology? Why and how companies need to shift thinking about MRO in the bigger corporate picture? How do MRO efficiencies and investment affect overall company performance?

Moderator:

Shri. Ajay Kumar, Managing Partner, KLA Legal

Panelists

Shri. Maniraj Rajagopalan, Associate Director – Lease Management (AAF), InterGlobe Aviation Limited (Indigo)

Gp. Capt. Sanjay Shah (Retd.), Director - Govt. & Public Sector Advisory, Nangia Anderson India Private Limited

Shri. Vinod Kumar Shukla, Director Training, Go Airlines (India) Limited

Shri. Vijay Jha, Chief Operating Officer, Drone Van Private Limited

15:40

Closing Ceremony

END OF PROGRAM & NETWORKING TEA



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HONORARY GUESTS



Lieutenant General Ajay Kumar Suri

Director General & Colonel Commandant,
Army Aviation,
Indian Army



Dr. Sudhir Kumar Mishra

Former Director General,
Defence Research and Development Organisation
(DRDO)



Shri. R. P. Kashyap

Director Operations Training,
Directorate General of Civil Aviation &
Indian Aviation Academy

INVITED EXPERTS



Shri. Ajay Kumar

Managing Partner
KLA Legal Advocates & Solicitors



Shri. Anirrbhan Batacharrya

Director,
Vector Technorium (OPC) Private Limited



Shri. Arun Kumar Bansal

Accountable Manager,
Pradhaan Air Express



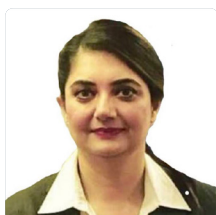
Shri. Ashwani Sharma

Aviation Consultant
EdgeVarsity Learning Systems



Lieutenant General Dharam Vir Kalra, PVSM, AVSM (Retd.)

Former Director General,
Ordinance Services, Indian Army



Dr. Harpreet A de Singh

Executive Director
Air India Limited



Col. Kandadai V Kuber (Retd.)

Director – Aerospace and Defence
Ernst and Young LLP (EY)



Shri. Maniraj Rajagopalan

Associate Director – Lease Management (AAF)
InterGlobe Aviation Limited (Indigo)



Shri. Mangalam Pandey

Lead – Technical Services
Air India Limited



Shri. Manoj Kumar Paidisetty

Deputy Director of Airworthiness,
Central Examination Organization,
Directorate General of Civil Aviation (DGCA)



Rear Admiral Mukul Asthana, NM (Retd.)

Former Assistant Chief of Naval Staff (Air),
Indian Navy



Shri. Prashant Gupta

Manager, Boeing Fleet
SpiceJet Limited



Shri. Pulak Sen

Founder & Secretary General
MRO Association of India



Gp. Capt. Sanjay Shah (Retd.)

Director - Govt. & Public Sector Advisory
Nangia Anderson India Private Limited



Shri. Saurav Gupta

Director,
Vandana Aircraft Services Private Limited



Air Marshal Sukhchain Singh AVSM, VSM (Retd.)

Former Air Officer-in-charge Maintenance
Indian Air Force



Dr. Sundararaj Munisamy

Professor & Head, Department of Aeronautical and
Aerospace Engineering
Bharath Institute of Higher Education and Research



Shri. Vijay Kumar Jha

Chief Operating Officer
Drone Van Private Limited



Shri. Vinod Kumar Shukla

Director Training
GO Airlines (India) Limited

ORGANIZING COMMITTEE

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Shri. Andy Kotwani, Chairman,
Aviakul Group of Companies, Moscow, Russian Federation

CHAIRMAN

Shri. Vaibhav Varun, Managing Director,
Aviakul Group of Companies, New Delhi, India

CONVENOR

Shri. Praveen Sankaran, C. Eng (India), General Manager,
Aviakul Group of Companies, New Delhi, India

ORGANIZING SECRETARY

Shri. Pushpendra Kumar Mishra, Marketing Head,
Aviakul Private Limited, New Delhi, India

Shri. Kokulakrishnan Jeganathan, Business Development Head,
Aviakul Private Limited, New Delhi, India

Shri. Kaisar Alam, Drone Directorate,
Aviakul Private Limited, New Delhi, India

Shri. Shreyash Bhargava, Business Development Officer,
Aviakul Private Limited, New Delhi, India

MEMBERS

Shri. Sabari Krishnaa G M, Junior Engineer – UAV,
Aviakul Private Limited, New Delhi, India

Shri. Vipul Chirantan, Junior Executive – Legal,
Aviakul Private Limited, New Delhi, India

Smt. Jyoti Gupta, Administrative Analyst,
Aviakul Private Limited, New Delhi, India

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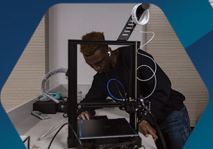
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ABOUT AVIAKUL GROUP OF COMPANIES

In the last few years, aviation and aerospace have seen remarkable development in India. Though the progress is significant, the opportunities and possible ventures from the industry are yet to be unmasked. Most people are still unaware of these developments and their impact. Bridging this gap is Aviakul Aviation Academy, a brainchild of aviation enthusiasts. With zeal to create a self-reliant Aerospace ecosystem, Aviakul elegantly leads the phenomenal transformation of aerospace and aviation, imbining global outreach.

Aviakul translates to “Home of Aviation,” and strives to lead the exceptional developments in the industry, absolutely justifying its name. The organization works towards its goals with a firm belief that the intended transformation could be possible through three key directions - Personnel, Network, and Indigenous Development.

The Word Aviakul stems from the amalgamation of two classic Languages. Avia, a latin word which means Flight or To Fly and Kul, a Sanskrit word which means Home, Family or Community. Hence our motto the Home of Aviation

Aviakul has been established by young Aviation Professionals and Business Leaders with years of market experience, with the sole agenda of pioneering the transformation to bring Self-reliance in Indian Aviation Ecosystem. Pioneering the transformation in Aerospace & Aviation can be achieved with three major avenues.

Training Academy Transformation in any industry can be sustained only with a qualified, well trained and skill equipped personnel. Aviakul aims to train, educate & equip skilled Aviation Personnel through its Aviation Academy. The concept of ecosystem where one’s output is being fed into other’s input is being implemented right at the grass-root level of training. Programs are designed to co-exist around each other, thereby making the candidates aware of their work environment from ab-initio.

Aviation Outreach Unfortunately, Aviation in India is still not within common man's reach. Though we are born to fly, we merely glare at the Sky. Making people aware of Aviation and taking the knowledge down to the grass-root level is a lifelong mission for Team Aviakul. Only when as a society, as a community, we are conscious about Aviation, we will be able to make wonderful strides in that field. With this noble mission in mind, Aviakul organizes several outreach activities including Events, Conferences, Webinars, Training Workshops, thus enabling the reach of knowledge to the grass-root level of our nation

Indigenous Development A Nation's true strength is evident from its capacity to stand on its own. True Atmanirbhar (Self-reliance) can happen only when the environment is conducive enough for the young brilliant minds to create their products and put them into the market. Aviakul firmly believes in penetrating the Sector with self-reliant philosophies that actually can make India a global leader in Aviation. With this mission in mind, Aviakul aims to establish a Research & Development facility that can conceive, design, develop, manufacture and produce indigenous Aviation Technology starting from as simple as a Basic Training Aircraft to as complex as a Sixth Generation Stealth Fighter Aircraft.

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- Industrial Congresses, Conclaves & Conferences
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- Guest Lectures
- Webinars
- Forums
- Workshop
- Hands on Training

KEY ACTIVITIES IN AVIAKUL SYSTEMS

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