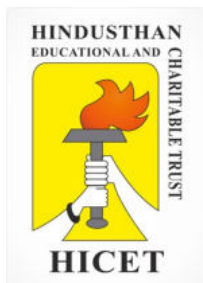


# Aero Annum



**MAY 2022**



**DEPARTMENT OF AERONAUTICAL  
ENGINEERING – HICET**



*I'm grateful to HICET for the infrastructure and exposure it has given me. I have had numerous opportunities to grow and better myself. Our faculty members are enthusiastic and help us to groom ourselves as a professional while studying. The placement cell provided all kinds of support in building and enhancing our skills. I am extremely proud to be a part of HICET.*

**GOKUL V**  
**Senior Engineer (CAE),**  
**General Motors, Bangalore.**

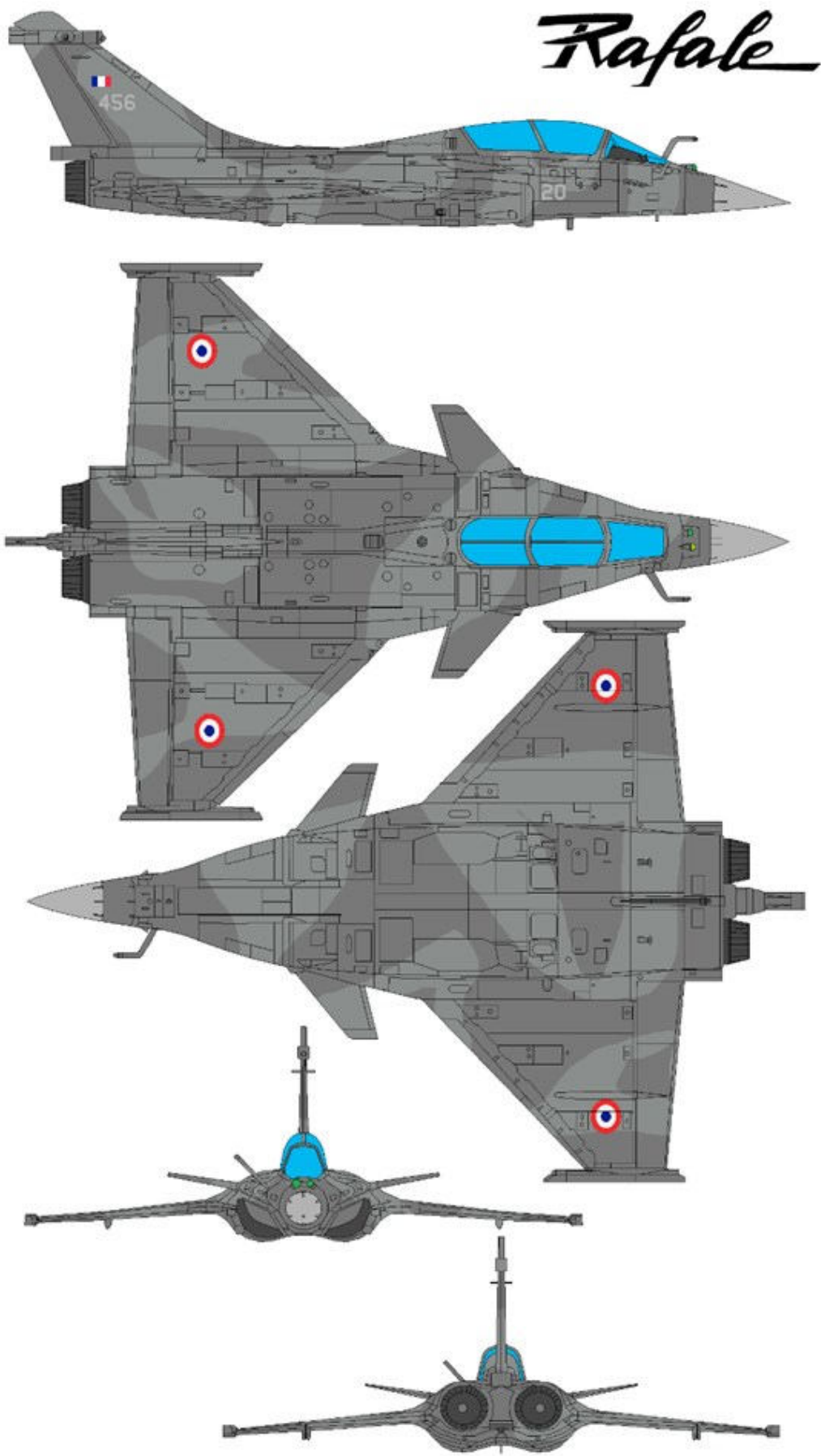
## Our Staff

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**Dr. V T Gopinathan**

Staff Editor  
**Mr. R. Veeramanikandan**

Student Editors  
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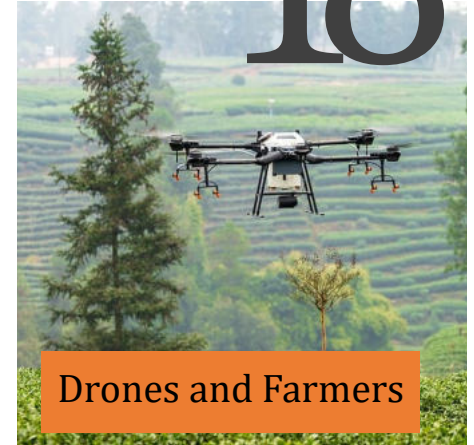
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# About the Institution



**H**industhan College of Engineering and Technology (HiCET) Coimbatore, established in the year 2000 by the great Industrialist and Philanthropist, Thiru.T.S.R.Khannaiyann of Hindusthan Educational Trust whose determination and dynamism made possible the realization of this institution of excellence. Surrounded with nature's pristine beauty and an excellent infrastructure coupled with dedicated and experienced faculty has made the campus a much sought-after abode of learning. HiCET is one of the premier technological institutions inculcating quality and value based education through innovative teaching learning process for holistic development of the Students. The institution is recognized under Section 2(f) and 12B of University Grants Commission (UGC) and is an autonomous institution affiliated to Anna University, Chennai with permanent affiliation for most of the programmes, approved by the AICTE and the Government of India. Accredited by the National Assessment and Accreditation Council (NAAC) with 'A' grade, National Board of Accreditation (NBA).

The Institute is ranked 146th in India Today Ranking and spotted as the Nodal Centre for Smart India Hackathon. One more feather in the crown is a Ford Eco sports car worth 22 lakhs gifted by Ford India and also the Best Accredited student Branch Award from Computer Society of India. Further, Establishment and Innovations plays a major role in the academic year 2020-21 Centre of Excellence with Royal Enfield and Eicher Motors are established. The institution continues to be top in the country (National Rank-31 as per Education World Ranking 2021-22).

HiCET conducts seminars and also invites companies to give presentations that will help our students to choose a right career for themselves and has hence contributed to the industry by successfully delivering fresh recruits who have contributed continuously to the growth of the industry by being a part of the top-notch organizations. For all these reasons HiCET has been a preferred institute for recruiting young minds.

Currently, there are around 5000+ students pursuing various Undergraduate programs (B.E./B.Tech.), Postgraduate programs (M.E./M.Tech, MBA & MCA) and Ph.D. research programs in the Institution and are mentored by above 400 well qualified and experienced faculty members. HiCET nurtures future global leaders by imparting knowledge, skills and building attitudes among students to face the world in a fresh, energetic and unrestrictive work environment. In keeping view of the severity of COVID-19, the faculty members were able to gain and sustain student engagement by being creative with lectures that integrate props, student polling, and videos on online mode.

## Institute Vision

To become a premier institution by producing professionals with strong technical knowledge, innovative research skills and high ethical values.

## Institute Mission

**IM1:** To provide academic excellence in technical education through novel teaching methods.

**IM2:** To empower students with creative skills and leadership qualities.

**IM3:** To produce dedicated professionals with social responsibility.





# About the Department

**D**epartment of Aeronautical Engineering was established in the year 2005 and now headed by Dr.V.T.Gopinathan. The Department also inaugurated the Aeronautical Students' Engineering Association (ASEA) in March 2008. The Department is directed by a dedicated team of teaching and non-teaching staff with a wide range of experience, and it has well-equipped laboratories and good infrastructure to support the autonomous curricular needs. Until now, the department has been in the forefront of advancing aeronautical education and indigenous research in the field of aeronautics. The department has received numerous funds under different schemes for various projects. On the year 2018 the UAV lab and UAV club was established to invent and support the UAV sector. Signed MoU with Government ITI,

## Department Vision

To be a global player and prepare the students with knowledge, skills, and ethics for their successful deployment in Aeronautical engineering.

## Department Mission

M1:To nurture the students technically based on current trends and opportunities in the global Aerospace industry.

M2:To develop the students as innovative engineers to address the contemporary issues in the aeronautical field.

M3:To inculcate professional and social responsibility based on an innate ethical value system.

## Program Educational Objectives (PEOs)

**PEO 1:** Graduates shall exhibit their sound theoretical, and practical knowledge with skills for successful employment, advanced education, research, and entrepreneurial endeavors.

**PEO 2:** Graduates shall establish deep-rooted mastering abilities, professional ethics, and communication alongside business capabilities and initiatives through lifelong learning experiences.

**PEO 3:** Graduates shall become leaders and innovators by devising engineering solutions for social issues in care of modern society.

## Program Specific Outcomes (PSOs)

The graduates will be able to:

**PSO 1:** Apply the knowledge of aerodynamics, structures, propulsion, avionics, and aircraft maintenance to give solutions for complex engineering problems.

**PSO 2:** Use progressive methodology and tools involving design, analyze, and experiment in aircraft design.

# program outcomes



<b>PO1</b>	Engineering knowledge	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
<b>PO2</b>	Problem analysis	Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
<b>PO3</b>	Design/development of solutions	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
<b>PO4</b>	Conduct investigations of complex problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
<b>PO5</b>	Modern tool usage	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
<b>PO6</b>	The engineer and society	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
<b>PO7</b>	Environment and sustainability	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
<b>PO8</b>	Ethics	Apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.
<b>PO9</b>	Individual and team work	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
<b>PO10</b>	Communication	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
<b>PSO11</b>	Project management and finance	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
<b>PSO12</b>	Life-long learning	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



## HoD's Message

### **“Learning is a treasure that will follow its owner everywhere”**


A path for making innovations in the field of Aeronautics is laid by the Department of Aeronautical engineering of Hindusthan college of Engineering and Technology. The department has put the sincere efforts in going further in its attempts to excel the set standards and it has been involved in various effective activities supporting our country to meet all expectations in the field of Aerospace. The curriculum of the program is designed to meet the requirements of Aerospace organizations and their associates engaged in either production or R&D. The prescribed core courses cover important and exciting areas of Aeronautical Engineering including Aerodynamics, Aircraft Structures, Flight Dynamics, Propulsion, Avionics, Aircraft Design, Rockets, Missiles, Aircraft Systems, Instrumentations and Aircraft Maintenance. Aeronautical Engineering program also offers the courses in regard to the recent trends in Aerospace technology such as Unmanned Aerial Vehicle systems, Satellite technology, Cryogenics and Nano science. HICET UAV (Unmanned Aerial Vehicles) Club is a new addition which is monitoring by Aeronautical Engineering Department. It aims to train the students in design, assembly, simulation and flying of different UAV models, which make every student specialize in the area of Unmanned Aerial Systems, which will provide them additional carrier opportunities.

Dr. V T Gopinathan  
HOD





Advocate Mr. M. Arunkumar at POCSO ACT awareness program Aero-HiCET



**POCSO ACT**

*Awareness amongst youngsters  
by Aero - Hicet*

SARAVANA KUMAR  
AP- AERO HICET

The Protection of Children from Sexual Offences, or POCSO, (Amendment) Bill, 2019, seeks to provide for stringent punishment to those engaging in sexual crimes against children, death penalty in cases of aggravated sexual assault, besides levying fines and imprisonment, to curb child pornography. The POCSO Bill proposes to protect the interest of vulnerable children in times of distress and ensure their safety and dignity. The Bill has been approved by Parliament — the Rajya Sabha on July 29, 2019 and the Lok Sabha passed it on August 1, 2019. The POCSO Bill, 2019, was moved for consideration and passage by Women and Child Development Minister Smriti Irani. She said the Bill provided for levying fines and imprisonment to curb child pornography.

*“Youngster have to be made aware and responsible towards the next generation” said Mr.M.Arunkumar in the program*



Young Lawyers participating in the program

In order to make aware the students in regards to POCSO the department of Aeronautical Engineering organized a seminar with the leading Advocate Mr. M. Arunkumar M.B.A., L.L.B., from Coimbatore



Youngsters participating in the program

**Outcome of the program**

- Awareness on POCSO ACT
- Responsibility towards minor children
- Duties to be performed as Indian Citizen.

A certain awareness on the minor children laws and adult responsibility towards them were instilled said the participants.

Aero Hicet is keen to set up a camp to educate people from outside HiCET



# டிரோன் கையாளும் திறன் குறித்த 'ஸ்வாட் டிரோன் சாம்பியன்ஷிப் 2022' போட்டி



கோவை, மே.11: கோவை இந்துஸ்தான் பொறியியல் மற்றும் தொழில்நுட்ப கல்லூரி, ஸ்கை வாக் ரோபாட்டிக்ஸ் மற்றும் பிளானெட் எக்ஸ் நிறுவனங்கள் சார்பில் டிரோன் கையாளும் திறன் குறித்த மாபெரும் 'ஸ்வாட் டிரோன் சாம்பியன்ஷிப் 2022' போட்டி கல்லூரி வளாகத்தில் நடைபெற்றது. சிறப்பு விருந்தினராக கோவை மாநகராட்சி கமிஷனர் ராஜு கோபால் சன்கரா, இந்துஸ்தான் கல்வி குழுமங்களின் நிர்வாக அறங்காவலர் சரஸ்வதி கண்ணையன் கலந்து கொண்டனர். போட்டியில் தென்னிந்தியாவை சேர்ந்த 50க்கும் மேற்பட்ட டிரோன் பைலட்டுகளும், இந்துஸ்தான் கல்லூரியின் யுஏவி கிளப் மாணவர்களும் கலந்து கொண்டனர். போட்டியில் இந்துஸ்தான் பொறியியல் மற்றும் தொழில்நுட்ப கல்லூரி சேர்ந்த முதலாமாண்டு மாணவர் மகி கிருஷ்ணன் முதலிடம் பெற்று ரூ.10 ஆயிரம் ரொக்க பரிசையும், கோப்பையும் வென்றார். இந்நிகழ்வில், இக்கல்லூரியின் செயலர் பிரியா சதீஷ் பிரபு, முதன்மைச் செயல் அதிகாரி கருணாகரன், முதல்வர் ஜெயா, நடராஜன், டீன் மகுடீஸ்வரன், துறைத்தலைவர் கோபிநாத், பேராசிரியர் சரவணகுமார், ஸ்கை வாக் நிறுவனத்தை சேர்ந்த கணேஷ், விங் கமாண்டர் சதீஷ் குமார் ஆகியோர் கலந்துகொண்டனர்.




**SWAD DRONE CHAMPIONSHIP 2022” on 07-05-2022. in association with Planet x Aerospace**

**The Champions were awarded a prize money of Rs. 10000/-**



12<sup>th</sup> Technical Symposium

Arun Raja KK & Joemon T



**Hindusthan**  
College of Engineering and Technology  
(An Autonomous Institution), Coimbatore - 641032.

**Department of Aeronautical Engineering**

welcomes you all to  
**12<sup>th</sup> NATIONAL LEVEL TECHNICAL SYMPOSIUM**  
**SHOCKAERONZ 2022**

*Chief Guest*  
**Mr. Karunakaran M**  
Team lead at Collins Aerospace  
Bengaluru.

*Convenor*  
**Dr. V.T. Gopinathan**  
[HoD/AERO/HICET]

*Principal*  
**Dr. J. Jaya**  
HICET

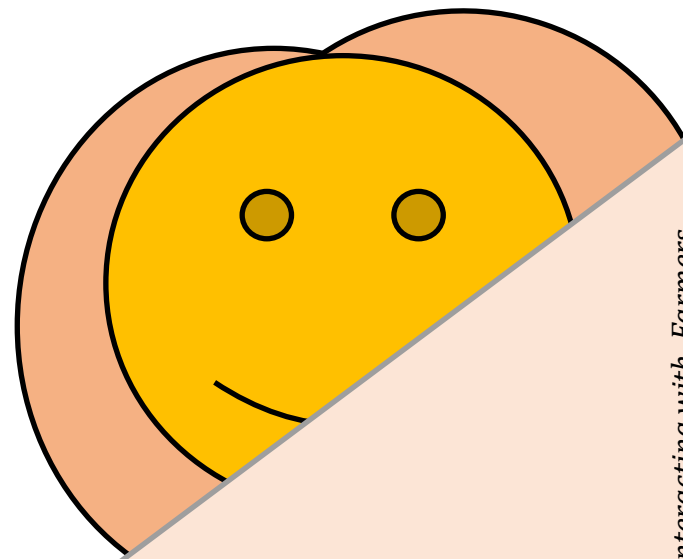
*CEO*  
**Dr. K. Karunakaran**  
HEI

DATE: 24.05.2022  
VENUE: LAVENDER HALL



*Altitude our  
Attitude*





Students interacting with Farmers

## Drones and Farmers

### Exposure and field visit for problem Identification

It is important to get to the ground reality to give a promising solution in an existing problem. One such attempt was to meet the farmers and enquire about the feasibility of the crops cultivated and methods involved. The difficulty or any particular problem faced in the cultivating methods. Identify the possibilities of implementing a drone assisted agriculture in the near future.

Hindusthan College of Engineering and technology has been continuously guiding the students to undertake real time socially responsible projects through the past two decades. Department of Aeronautical Engineering under the advice of Institution and Innovation Cell (IIC) organized a field trip to the agricultural lands at Ganapathypalayam, Udumalaipet in order to visit the farmers and have a discussion on real time problems faced by them in agriculture.



Mr. T Velayudhasamy an 80 year old veteran farmer who is former B.Sc Agri graduate from the Tamil Nadu Agriculture University, Coimbatore addressed the gathering. He into the agriculture sector for almost 60+ years. In the early 60's the enthusiastic veteran had already tried his hand in aerial spraying using fixed wing monoplanes and helicopter which was much appreciated by the honorable minister Mr. Kakkan then. The cost at that time would be Rs.5 per acre. Also most recently they have tried using DJ360 drone for aerial spraying at the cost of Rs.950 per acre. Mr. B Suresh, a farmer added that the cost of getting the coconuts down would be Rs. 80 and it would be helpful if modernized equipment can be implemented for bring the coconuts down.

The farm manager Mr. K Senthil takes care of the entire farm which is 26 acres in size. In this season they have invested in tomato, brinjal, beetroot and corn. A large part of the farm is yielding coconuts. One of the main other issues is encounter with the rodents and wild boar. In case of a wild boar encounter, it may harm the farmer working in the field, also it destroys the crops. If a wild boar enters the field the maze gets smelly and it cannot be fed to the cattle after the yield.

One other thing enquired was about the encounter with snakes in the farm, "It is absolutely very difficult to see the snakes in a fully grown field" replied Mr. K Senthil the manager of the tomato field. Mr. Abhishek IV Aero student explained about the sonic device that can be tied to the ankle which will repel the snake with a sound frequency.



*By noon, all the farmers and students gathered at one point to have a discussion on the existing methods used by them for the crops based on their season and rain. There was a strong discussion on "What a drone is and how it can assist the existing farming method". Amidst the discussion the students displayed a short yet impressive demonstration on how to operate a quadcopter drone and the feasibility of the drones. They also demonstrated their previous project approved by MHRD, which effectively implements to chase elephants from civilian areas without harming them.*

*Impressed by the demonstration, farmers gave the following comments on what they feel about UAV as an agricultural tool:*

- ◆ *Its fast and its speed needs to be adjusted in order to have a proper fertilizer spray*
- ◆ *The spraying technique is not universal for all the crops.*
- ◆ *Heavy rains may spoil the Electronic Operated UAV*
- ◆ *Low piloting skills would end up in improper aerial spraying.*
- ◆ *For large agriculture lands (say 50 acres) the range of the drone could be not feasible.*
- ◆ *Cost of maintenance of the drone is still in doubt.*
- ◆ *Payload of the fertilizer or pesticide in the drone is very much limited.*
- ◆ *Operating drones between coconut trees will be hectic.*
- ◆ *If the cost per acre can be reduced it would be much feasible.*

*The students noted down all the comments and collected some data on the amount of pesticide, fertilizer and other accessories used for different crops including the labor charges and government policies towards modernizing agriculture.*

*Students also made aware of the firefighting drones and medical supply drones to farmers which can be used in case of emergency while discussing about the present market and research that is already made.*

*All the participants were provided lunch at the farmlands along with the farmers and as a good will gesture the famers gifted us with a basket of tomato. The trip started back to college by 02.30 pm.*



Event: **Exposure and field visit for problem Identification**

Organizers: Department of Aeronautical Engineering

Co-Ordinators:

Saravanakumar V AP/Aero  
Arulmozhinathan T AP/Aero

Associated with: Industry Innovation Cell & Entrepreneurship Development Cell

Date: 02-12-2021

Venue: Agricultural land, Ganapathypalayam, Udumalpet.

Purpose:

- ◆ To meet the farmers and enquire about the feasibility of the crops cultivated and methods involved.
- ◆ The difficulty or any particular problem faced in the cultivating methods.
- ◆ Identify the possibilities of implementing a drone assisted agriculture in the near future.

Participants: Interested students from Department of Aeronautical Engineering and Department of Agriculture Engineering





# Small aircraft with hybrid-electric propulsion systems

Arjun Dhillip S B (18101006)

Stakeholders envision the introduction of electric and hybrid-electric aircraft into operation by 2035. First developments of such aircraft have demonstrated that the existing technologies do not allow realization of hybrid-electric aircraft matching the performance of traditional aircraft with the same load factors. The major challenge of future hybrid-electric aircraft development is the considerable improvement of the energetic efficiencies. This paper evaluates the (i) problems and barriers (ii) emerging and required future technologies of effective hybrid-electric propulsion systems and (iii) adaptation of the aircraft conceptual design process for the development of hybrid-electric aircraft. The developed methodology is applied to the conceptual design of a small aircraft with hybrid-electric propulsion system. The results demonstrate that the adapted conceptual design methods with (i) constraints on mass fraction adapted to new technologies and solutions, (ii) constraints defined for energy fractions for flight mission legs, (iii) considering radically new elements and technologies in aircraft design and (iv) developing unconventional aircraft, aircraft operations may allow the development of small hybrid-electric aircraft with acceptable performance.

Nowadays, the aeronautical industry faces a non-classical market pull-technology push innovation situation. The market pull appears as society needs greener, more efficient and on demand transportation, which is supported by visions and actions taken by the policy makers and regulators. These visions intend to define the possible directions and areas of technology development; the technology push. The system is non-classical as aeronautics, including air transportation is about to initiate its third technological development “S”-curve. This new phase is reached with the development of several emerging technologies and radically new solutions such as lightweight materials, ultra-flexible structures, morphing, active flow control or biomimicry. The historic visions published near the millennium could not have possibly predicted the introduction of electric aircraft concepts. For example, NASA Bluer Print and other documents only mention electric propulsion, advanced fuel cells, high efficiency electric motors on the list of revolutionary aircraft.

Later, the IATA Technology Roadmap published in 2013 predicted that electric aircraft will enter service by 2020. Also, midsize full electric aircraft were predicted to be introduced by 2035, provided battery energy density could be tripled compared to current technology levels. The policy makers, regulatory bodies and stakeholders define rather ambitious goals for the future of air transportation. These goals include the reduction of NOx emissions by 90% and CO2 emissions by 75% [3,4]. Other international and national organizations are taking similar positions [8e10]. Using “simple” innovative solutions alone, the gradual enhancement of existing technologies and solutions, it appears that the targeted goals cannot be achieved. These solutions include the use of lighter materials, advanced aerodynamics, increasing current engine and propulsion system efficiencies, enhanced engine-airframe integration, new ATM procedures, operational concepts and novel ground and flight operations. Therefore, radically new technologies, original and unconventional solutions are required, based on the “out of the box” thinking principle. Unconventional new solutions could include features which would radically change the current air transportation systems, like the MagLev assisted take-off and landing of undercarriage-less aircraft or the cruiser-feeder concept. The general reception of these ideas show that the stakeholders are afraid of using revolutionary new solutions, and even be against the operation of such new technologies.

The novel situation in today’s technological development process was identified; new market pull forces appeared, the demand for greener aviation. This demand appears at policy maker and society level; the average citizen feels more responsibility and concern towards sustainable technology. This demand takes form in ambitious goals set for the future of aviation; significantly reduced emissions. Gradual improvements to current technologies will not be enough to reach the defined goals, disruptive change is required. Hybrid-electric propulsion, novel technologies, configurations and solutions seem to be the most likely answer towards reaching the goals. The traditional aircraft conceptual design process was investigated, the role of optimization and computer aided tools highlighted. The mass fraction analysis and other critical areas were introduced, and the useable approaches and tools briefly summarized. The key challenges towards successful hybrid-electric propulsion system development were described. The problem of low battery specific energy was theoretically demonstrated; in small aircraft 1 kg of fuel provides the same amount of propulsive power as 10 kg of state-of-the-art battery packs in the foreseeable future, about 400 Wh/kg. Acceptable levels, about 750 Wh/kg won’t be available before about 2035. Other issues regarding battery technology and other propulsion system elements and technologies were highlighted.

A novel conceptual design methodology adapted to hybrid electric aircraft development was described. The novelties of this method are the evaluation of state-of-the-art technologies, use of energy fractions in conceptual design, adaptation of mass fractions to novel configurations and the introduction of the hybridization factor and power split into the conceptual design process. A hybridized range equation was developed to enable comparison of different propulsion systems. The developed methodology was applied to the analysis of the small general aviation aircraft category. The concept is based on the Cessna 172 aircraft. The electric propulsion was based on available technology. A propeller-power plant matching tool was used to estimate efficiencies in arbitrary flight conditions. The theoretical findings of the technology challenge chapter were confirmed in the design study. Simply replacing the ICE with fully electric motors and the fuel with batteries would provide only fractional range at today’s technology level. Even at 1000 Wh/kg future levels, the concept aircraft could only achieve half the current range and only at the expense of reduced cruise speed.





# Aircraft materials: the special need

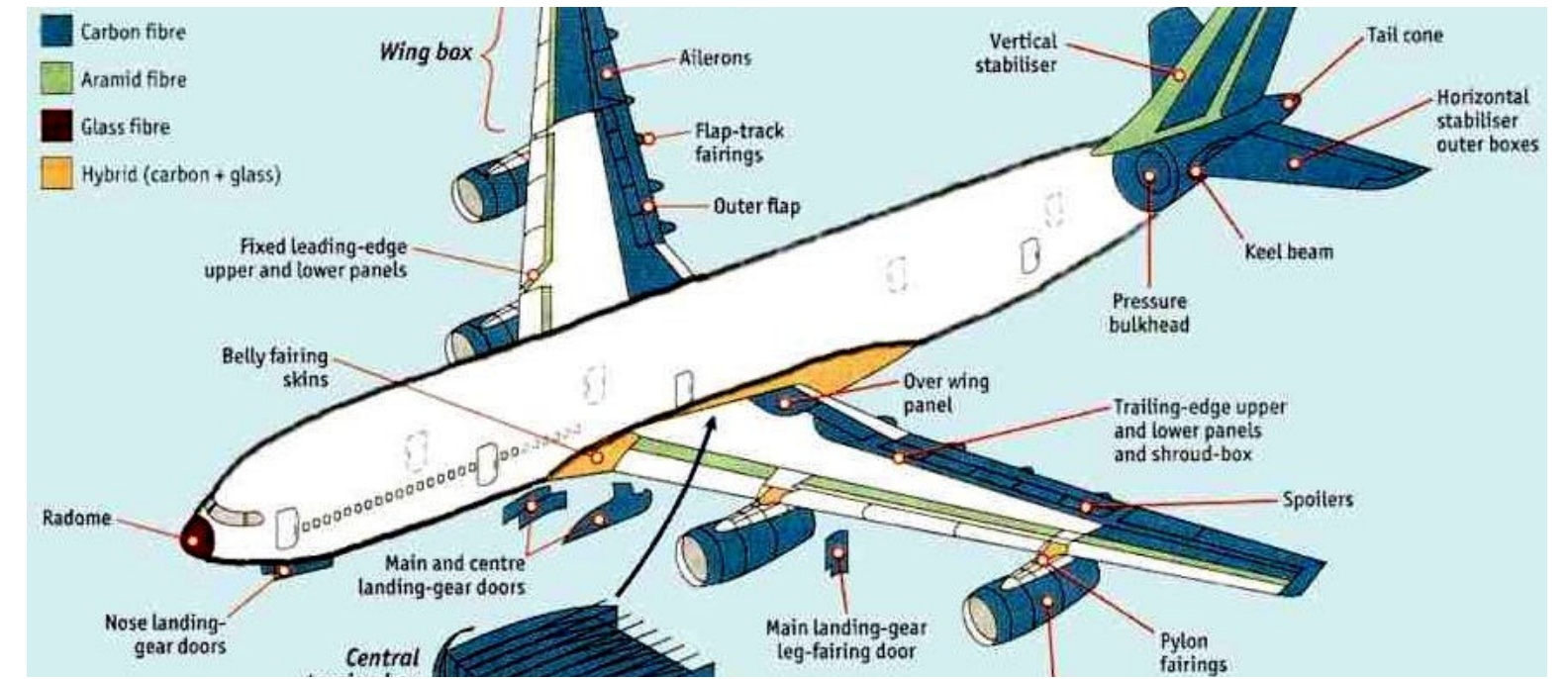
Santhini M (18101069)

While the basic principles of flight that the Wright brothers applied still pertain, there have been enormous changes over the years to the means by which those principles are understood and applied. The most pervasive and influential of these changes is the broad variety of applications of computer technology in all aspects of aviation. A second factor has been the widespread development of the use of composite materials in aircraft structures. While these two elements are the results of advances in engineering, they are also indirectly the product of changing social and legal considerations.

The social issues are manifold and include the increasing global interdependence of business, the unprecedented political revolutions in every part of the world, and the universal human desire for travel. In addition, concerns have grown about the environmental impact of airplanes, especially in regards to the burning of fuel and its contribution to global warming. All these issues come at a time when fuel prices have increased. As a result, both computers and composite materials are necessary to create lighter, stronger, safer, more fuel-efficient aircraft.

The legal issues are equally complex, but for the purposes of this section revolve around two elements. The first of these is that the design, test, and certification of an aircraft has become such an extraordinarily costly project that only the most well-funded companies can undertake the development of even relatively small aircraft. For larger aircraft it is now common practice for several manufacturers, often from different countries, to ally themselves to underwrite a new design. This international cooperation was done most successfully first with the Anglo-French Concorde supersonic transport and has since been evident in a number of aircraft. A component of this process is the allocation of the production of certain elements of the aircraft in certain countries, as a quid pro quo for those countries not developing indigenous aircraft of a similar type.

The second legal element is that the potential of very large damages being awarded as a result of liability in the event of a crash has forced most aircraft companies to cease the manufacture of the smaller types of personal aircraft. The reason for this is that the exposure to damages from a large number of small single-engine planes is greater than the exposure from the equivalent market value of a few larger planes, because the larger planes generally have better maintenance programs and more highly trained pilots. The practical effect of this has been an enormous growth in the home-built aircraft industry, where, ironically, the use of computers and composites have effected a revolution that has carried over to the commercial aircraft industry.



**Specialist properties** are considered for aircraft materials used in components for a unique application. The specialist property may be the most important consideration in materials selection, and other properties such as the cost, ease of manufacture or mechanical performance could be of lesser importance. For example, resistance against cracking and spalling owing to rapid heating, known as thermal shock resistance, is an essential property for materials used in the exhaust casing of rocket engines. Listed below are several specialist properties which may be considered in materials selection:

Electrical conductivity is an important property for materials used in the outer skin of aircraft. The material must have the ability to conduct an electrical charge in the event of lightning strike. Thermal conductivity is a consideration for materials used in high-temperature applications such as heat shields and engine components. Heat-shield materials require low thermal conductivity to protect the airframe structure from excessive heating.

Thermal expansion is also a consideration for high-temperature materials. Materials with a low thermal expansion coefficient are often required to avoid excessive expansion and contraction during heating and cooling.

Flammability is a consideration for materials where there is the risk of fire, such as aircraft cabins and jet engines. Flammability properties such as ignition temperature, flame spread rate and smoke may need to be considered.

Stealth is an important property for materials used in the external surface of covert military aircraft. Materials with the capability to absorb radar waves and/or reduce the infrared visibility are important for stealth aircraft.



# Higher studies

S.No	Reg.no	Name	Name of the degree & Institution
1	18101010	ASWNS	Master of Science in Advanced manufacturing systems Brunel University, London
2	18101017	DANDAMUDI JAHNAVI	Master of Science in Aerospace Systems Engineering The University of Alabama in Huntsville, USA
3	18101020	DHARSHIN DEV T R	Master of Science in Advanced Aerospace Eng University of Liverpool, United Kingdom
4	18101021	FAISAL HUSSAIN MUGHLOO	Master of science in major in Flight Vehicle Design/Aeronautical design engineering Shenyang Aerospace University
5	17101008	ANNE CHRISTINA .J	Master of Science in Aeronautical and aerospace engineer- ing, Cranfield University
6	17101027	EBY ROY	Master of Science in Mechanical engineering, Cranfield Uni- versity
7	17101037	JEEVA. M	Master of Science in Aeronautical and aerospace engineer- ing, Cranfield University
8	17101075	RAMAKRISHNAN R	Master of Science in Logistics and Supply Chain Management with PP, Birmingham City University, England.
9	17101103	VIGNESHWARAN N	Master of Engineering in Industrial Safety Engg, Mepco Schlenk Engineering College
10	17101101	VIJAY S	Master of technology in Avionics, Anna University, MIT Campus
11	16101049	KAMRAJ S	MBA, PSG College Of Technology
12	16101059	MITHUNA L	Mtech in Thermal and propulsion, Indian Institute of space Science And Technology
13	16101803	EMN JOSH Y	Master of Science in Advanced manufacturing systems, Bru- nel University, London

# Our Recruiters

