

**ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM**  
**UNIVERSITY COLLEGE OF ENGINEERING**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATIN ENGINEERING**

**A REPORT ON INDUSTRIAL VISIT**  
**TO**  
**CSIR-NAL**

An industrial visit to CSIR-NAL (Council of Scientific and Industrial Research-National Aeronautics Limited), at Bangalore, has been organized by Department of Electronics and Communication Engineering of ADIKAVI NANNAYA UNIVERSITY, University College of Engineering Rajahmundry, Students of B. Tech 3<sup>rd</sup> year on 19-October-2022 who were accompanied by Three faculty members, Mr. A. Vijaya Durga Asst.Prof., Mr. P. Venkata Ratnam Asst.Prof., Smt.Lakshmi Bhai.

Industrial visits offer a great source to gain practical knowledge. Students can observe and learn as to how theoretical concepts are put into action thereby aiding their practical learning and this was the purpose of our visit to CSIRNAL (Council of Scientific and Industrial Research-National Aeronautics Limited).



## **About CSIR-NAL (Council Of Scientific And Industrial Research-National Aeronautics Limited) :**

The National Aerospace Laboratories (NAL) is India's first and largest aerospace research firm established by the Council of Scientific and Industrial Research (CSIR) in Delhi in 1959 is the only government aerospace R&D laboratory in the Country's civilian sector. CSIR -NAL is a high - technology oriented institution focusing on advanced disciplines in aerospace. CSIR-NAL has several advanced test facilities, and many of them are recognized as National Facilities. these are not only the best in the country, but are also comparable to other similar facilities in the world. CSIR-NAL has provided significant value added inputs to all the Indian national aerospace programmes. Its contributions over the last five decades have enabled it to create a niche for itself in advanced aerospace research and technology development. CSIR-NAL has also developed many critical technologies for strategic sector and continues to support the mission-mode programmes of the country.

The story of CSIR-NAL began on June 1, 1959, when the National Aeronautical Research Laboratory (NARL) was set up in Delhi, with Dr. P Nilakantan as its first Director. Barely nine months later, in march 1960.it made its humble beginning by setting up its office in the stable of the Mysore Maharaja's Place on the Jayamahal Road and the Place road as National Aeronautical Laboratory. The first Executive Council was chaired by JRD Tata and was studded with luminaries such as Prof Satish Dhawan and the legendary designer Dr. V.M. Ghatge. Originally started as National Aeronautical Laboratory, It was renamed as National Aerospace Laboratory in April 1993 to reflect its growing involvement in the Indian Space Programme, its multidisciplinary activities and global positioning.

The firm closely operates with HAL, DRDO, and ISRO and has the prime responsibility of developing civilianaircraft in India. It concentrates on research in advanced topics in aerospace and related disciplines. The NAL also has facilities for the investigation of failures and accidents in the domainof aerospace engineering.



### Summary of the Visit

One bus with students started from ADIKAVI NANNAYA UNIVERSITY, University College of Engineering Rajahmundry at 9:30 A.M. on 19/10/2022.



We reached Rajahmundry Railway Station. Then we move from Rajahmundry railway station to Bangalore via Vijayawada. We reached Bangalore at 10:00 A.M, on 20/10/2022 where accommodation was provided to the students and faculty at Hotel Surya Residency, Gandhi Nagar, Majestic, Bengaluru. After Breakfast, we started to CSIR-NAL (Council of Scientific and Industrial Research-National Aeronautics Limited) and reached there by 11:45. A.M. After several security checks and administrative formalities, Students and faculty to allow in to Organization.



We visited various testing centers of NAL in the well-maintained campus that is full of lush greenery. At first, we visited the wind tunnel testing centre which is one of the important phases in the design of aircrafts and other launch vehicles. We were given an insight on the procedures and processes associated with this test. Later we visited acoustic test centre, advanced composite division of NAL and were given brief insight of those centers. We were then accompanied by our guide and reached the other centre of NAL where we visited various processes associated with the centre.

1. Acoustic Test - here the reverberation chamber-based facility was designed by NAL. This facility is capable of providing acoustic qualification for all ISRO's space bound hardware with spectra confirming to MIL-STD 810G standards.

2. Wind Tunnel Test - it is one in which reduced scale model of the aircraft is attached to a balance and the six components of the force and the moments are measured for various combination of wind, velocity, incidence angle, sideslip angle, and control surface angle.

3. UAV Design and Integration – they provide bridge diverse research and product-oriented approaches to a work source for airtel systems.

4. Center for Civil Aircraft Design and Development - C-CADD is currently involved in the development of certification of a 14-seater light transport aircraft (SARAS) and 5-seater general aviation aircraft (CNM- 5) after having successfully certified the all-composite Hansa-3, a two-seater abinitio trainer for pilot training in flying clubs. After that we had presentation from 12.30 pm to 1.00 pm where the history of the organization, general working and various certifications achieved by organization was elaborated about. We were briefed about the job opportunities, internships and their work culture.

### **Students Share CSIR -NAL Bangalore, Experience**

Some of the students, share their industrial visit to CSIR-NAL (Council of Scientific and Industrial Research-National Aeronautics Limited, at Bangalore experiences, they are P.S.S Premkumar, D.T.V Sai Kumar, P.Sandeep, M.Amrutha Sai, N.Hema Latha are shared their experiences on an industrial visit to CSIR-NAL, Bangalore visit in the form of a presentation on the purpose, utility and experience of the visit. Dr.VPS Naidu, Scientist and Dr.Sangeetha Personal Relation Officer apprised the students of various aspects of CSIR-NAL. “Its objective is to provide space related techniques for India. The CSIR-NAL visit was quite enlightening and exciting. A lot of information related to the space was received from the excursion. Through, presentations, Guide lectures, and excursions, we get detailed information about India's space-related developments,” they said giving detailed information regarding various testing centers, design of aircrafts, Wind Tunnel Test, UAV Design and Integration, 5-seater general aviation aircraft CNM- 5etc.

- ❖ A News Paper Article regarding Adikavi Nannaya University, Engineering 3<sup>rd</sup> year Students visit to CSIR-NAL (Council of Scientific and Industrial Research-National Aeronautics Limited), at Bangalore.

## ఇంజనీరింగ్ విద్యార్థుల ఇండస్ట్రియల్ విజిట్



ఇండస్ట్రియల్ విజిట్ ను ప్రారంభిస్తున్న స్ట్రీమ్ పాల్ డా.వి.పిర్మన్

అన్నాడు. పాఠ్య ప్రణాళికలలో భాగంగా 19వ తేదీ నుండి 25వ తేదీ వరకు డిపార్ట్ మెంట్ ఆఫ్ ఎలక్ట్రానిక్స్ అండ్ కమ్యూనికేషన్ ఇంజనీరింగ్ విద్యార్థులను బెంగళూర్ ఇండస్ట్రియల్ విజిట్ కు పంపిస్తున్నామన్నారు. బెంగళూర్ లోని సి.ఎన్.ఐ.ఆర్ - నేషనల్ ఎరోస్పేస్ రెసోర్సెస్, ఐ.ఎన్.ఆర్.ఓ - యు.ఆర్.రావు

19.10.22 (మీడియాసెల్) ఆదికవి నన్నయ యూనివర్సిటీ కాలేజీ ఆఫ్ ఇంజనీరింగ్, డిపార్ట్ మెంట్ ఆఫ్ ఎలక్ట్రానిక్స్ అండ్ కమ్యూనికేషన్ ఇంజనీరింగ్ అధ్యక్షులు బెంగళూర్ లోని వలు ప్రాంతాలకు ఇండస్ట్రియల్ విజిట్ కు వెళ్ళారు. బుధవారం యూనివర్సిటీ కాలేజీ స్ట్రీమ్ పాల్ డా.వి.పిర్మన్ ఇండస్ట్రియల్ విజిట్ ను తెండాకు ప్రారంభించి వివరాలను తెలియజేశారు. వీసీ ఆచార్య మొక్కా జగన్నాథరావు ప్రోత్సాహంతో యూనివర్సిటీ కాలేజీ ఆఫ్ ఇంజనీరింగ్ విద్యార్థులకు మెరుగైన అవకాశాలను కల్పిస్తున్నామని, ఎ.ఐ.సి.టి.ఇ. గుర్తింపుతో కూడిన నాణ్యమైన ఇంజనీరింగ్ విద్యను అందిస్తున్నామని

శాటిలైట్ సెంటర్, శ్రీ మోక్షగుండం విశ్వేశ్వరయ్య మ్యూజియం వంటి ప్రాంతాలను సందర్శిస్తారని చెప్పారు. ఇంజనీరింగ్ లోని అడ్వంతులను ఆవిష్కరించిన ఇటువంటి ప్రాంతాలలో పర్యటించడం ద్వారా విద్యార్థులకు క్షేత్రస్థాయి ఇంజనీరింగ్ విధానాలు అలవాటు అవుతాయన్నారు. ఇంజనీరింగ్ లో మెరుగ్గా రాజించాడానికి ప్రోత్సాహకంగా ఉంటుందన్నారు. ఆధ్యాపకుల మార్గదర్శకంలో విద్యార్థులు క్రమశిక్షణతో ఇండస్ట్రియల్ విజిట్ ను పూర్తి చేసుకొని రావాలన్నారు. ఈ కార్యక్రమంలో కోర్సు కోఆర్డినేటర్ డా.బి.సుధాకర్రాజ్, డా.వెంకటరత్నం, లక్ష్మీధాయ్ మరియు విద్యార్థులు పాల్గొన్నారు.