Council of Scientific and Industrial Research

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The Council of Scientific & Industrial Research (CSIR), known for its cutting edge R&D knowledge base in diverse S&T areas, is a contemporary **R&D organization.** Having a pan-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centres, 3 innovation complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel.

More About CSIR

- It was established as an **autonomous body** by the government of India **in 1942 to promote scientific knowledge and boost industrialization and economic growth.**
- It is now one of the largest publicly funded R&D organizations in the world and **headquarters are in New Delhi.**
- Although it is mainly funded by the Ministry of Science and Technology, it operates as an **autonomous body through the Societies Registration Act, 1860.**
- **Arcot Ramaswamy Mudaliar and Shanti Swaroop Bhatnagar** were instrumental in the establishment of CSIR.
- Prominent laboratories include:

. The Centre for Cellular and Molecular Biology (Hyderabad)

. The Central Electronics Engineering Research Institute (Pilani)

. The Central Institute of Mining and Fuel Research (Dhanbad)

. The National Aerospace Laboratories (Bengaluru)

. The National Institute of Oceanography (Goa)

. The National Botanical Research Institute (Lucknow)

Vision of CSIR

- Science and Engineering leadership
- Innovative technology solutions
- Open innovation and crowdsourcing
- Nurturing talent in transdisciplinary areas
- Science based entrepreneurship
- Socio-economic transformation through S&T intervention

Major Achievements of CSIR

- **Aerospace**

. **SARAS:** This 14-seater twin-engined turboprop aircraft is fully pressurized for passenger comfort and has a maximum speed of over 600 km/h and a maximum range of 1200 km.

. Development of **carbon fibre composite wings** for India's light combat aircraft (Tejas) programme.

. **HANSA:** Fabricated entirely out of composite materials, HANSA is ideal for training, sport and hobby flying as well as for surveillance, aerial photography and environmental monitoring.

- **Biology and Biotechnology**

. A large number of medicinal and aromatic plants have been genetically characterized, evaluated and their **improved varieties developed** and released.

. Institute of Himalayan Bioresource Technology (IHBT) is a nationally recognized centre for **testing tissue culture raised plants against viruses in floriculture crops**, and for pesticide residue analysis in tea and herbals. It has rejuvenated the abandoned tea gardens and helped in improving tea productivity of the region.

. National Chemical Laboratory (NCL) has developed a **“PCR based assay” to detect male specific differences in papaya.** The assay helps detect the sex of papaya plants at the one-month seedling stage so that male and female plants can be planted in the desired ratio to maximize the harvest.

- **Energy**

. Development of **washing circuits for beneficiation of Indian coking coals** vis-à-vis utilization of the process technology in all the 22 central washeries.

. Development of **software for better plant performance** and prediction of achievable yield in coal washing plants.

. Development of **LPG domestic stove with 70% thermal efficiency.**