

PLATINUM JUBILEE  
75 YEARS  
CELEBRATIONS

# CSIR-IICT

Institute with Industrial Outlook  
and Academic Ambience

PLATINUM JUBILEE



CSIR-Indian Institute of Chemical Technology  
सीएसआईआर-भारतीय रासायनिक प्रौद्योगिकी संस्थान  
Hyderabad, India

## CSIR-IICT 75 Glorious Years

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- 1944 Established as Central laboratories for Scientific & Industrial Research (CLSIR) by the then Nizam of Hyderabad
- 1949 Foundation Stone Laid
- 1954 Pandit Jawaharlal Nehru inaugurated the Main Building
- 1956 CSIR takes over CLSIR, Renamed it as Regional Research Laboratory (RRL) the First in the Series
- 1989 Renamed as Indian Institute of Chemical Technology
- 1994 Golden Jubilee Year
- 2003 Diamond Jubilee Year
- 2018 Platinum Jubilee Year



**Dr. S. Chandrasekhar**  
Director

### Director's Quote

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**Transformation of research findings into business opportunities is our motto**

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#### Vision:

To Serve society by creating an outstanding knowledge base in chemistry and chemical technology.

#### Mission:

CSIR-IICT will strive towards knowledge intensive translational research in chemistry to meet the Nation's expectations with novel technologies.

**CSIR-IICT** was established with a clear objective to serve the Nation through scientific inventions. Over the years, the institute excelled in both basic and applied areas of chemistry and chemical technologies. The state-of-art pilot plant facilities complement a strong team of Chemists, Chemical and Design engineering groups for successful implementation of projects in upscaling and commercialization.

### Manpower

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- Scientists -160
- Researchers - over 600

# Research Departments & Centres

## Applied Biology

- Cell and molecular biology
- Proteomics, Computational and Structural biology
- Disease modelling and Public health
- Pharmacology, Toxicology and drug delivery

## Analytical Sciences

- NABL accredited testing for APIs, Oils and Fats, water
- 21-CFR-Part-11 compliance
- Audit trails and data integrity
- State of the art NMR, Mass spectra, XRD and Imaging
- Thermal analysis

## Fluoro and Agrochemicals

- Process development for Crop protection chemicals
- Biopesticides
- Fluorinated chemicals



## Organic Synthesis and Process Chemistry

- Process chemistry
- Multistep Natural Product Synthesis
- Innovative synthetic methods
- Impurity profiling

## Catalysis and Fine Chemicals

- Homogeneous/ Heterogeneous catalysis
- Asymmetric catalysis / Green processes
- Biomass to chemicals
- Catalyst screening

## Polymers & Functional Materials

- Polymer synthesis and characterization
- Pharmaceutical excipients
- Specialty coatings
- Nanomaterials

## Chemical Engineering

- Bench to Pilot scale facilities
- Design and commission of commercial plants
- Process control and optimization
- Fault detection and diagnosis
- Process safety
- Effluent treatment

## Core Competencies

- New route identification
- Processes for off Patent APIs
- Drug Intermediates / Import Substances / Impurity Profiles
- New Drug Discovery
- Catalysis for sustainable processes
- Design & Synthesis of New Catalysts
- Agrochemicals
- Bio-Pesticides / Bio-Fertilizers
- Polymers & Materials

## Centres of Excellence

- Centre for Nuclear Magnetic Resonance
- Centre for Mass Spectroscopy
- Centre for X-ray Crystallography
- Centre for Lipid Science & Technology
- Centre for Natural Products & Traditional Knowledge
- Centre for Environmental Engineering & Fossil Fuels

## Knowhows Developed (Selected)

### Pharmaceuticals

Celecoxib  
Timolol  
Sulbactam  
Vaccine adjuvants

### Water Technologies

Compact Membrane Unit for Fluoride Removal  
Production of Ultra Pure Water  
Indigenous ionizer for production of alkaline ionized water

### Fine Chemicals

Process for Glycerol Carbonate and Glycidol  
Process for o-Chloro Benzonitrile (Aromatic nitriles)  
Process for 2-Cynopyrazine

### Polymers

Process for Methacrylic acid copolymer Type A USP/NF-L100  
Process for Methacrylic acid copolymer Type A USP/NF-L30D  
Process for Crospovidone USNF  
Process for Carboxylated Butadiene Nitrile Latex (CBNL)

### Lipid Technologies

Enzymatic Degumming of Rice Bran Oil  
Glycerol-based Solid Acid and Base Catalysts useful for the Esterification and Transesterification Processes  
Process for Bleached/Refined Wax from Crude Rice Bran Wax  
Process for Triacontanol/Fatty Alcohol Mixture from Rice Bran Wax

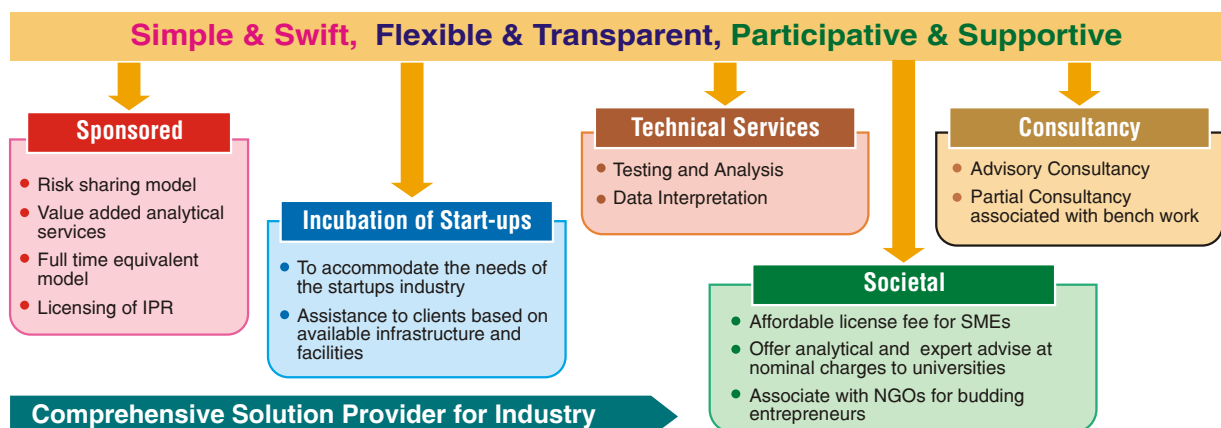
### Fluoro/Agrochemicals

Process for Thiophanate - Methyl  
A mercaptan free process for Profenofos  
Process for Tembotrione  
Process for 1,1,1,2-tetrafluoroethane (HFC-134a)  
Process for 2,2,2-trifluoroethanol  
Process for 2H-heptafluoropropane

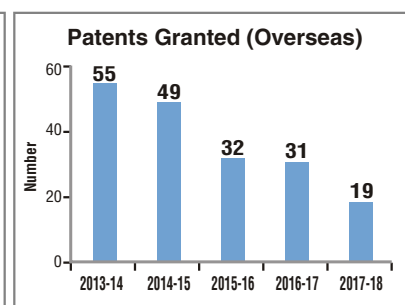
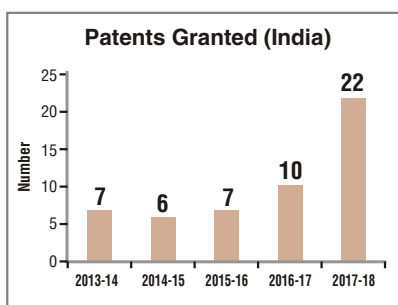
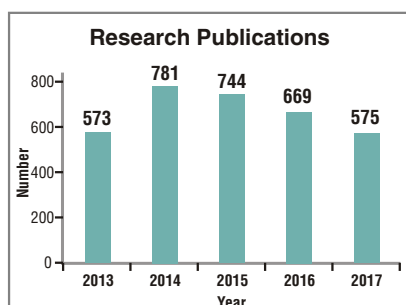
### Environmental Engineering

High Rate Biomethanation Technology through Anaerobic Gas lift Reactor (AGR)

## Business Models



## Research Publications & Patents



## Awards

• INFOSYS Award	01
• Bhatnagar Prize	05
• Academy Fellowship	26
• J.C. Bose Fellowship	03
• Vasvik Award	04
• Technology Award	05
• Young Scientist Award	35
• NASI-Reliance Industries Platinum Jubilee award	5
• Organisation of Pharmaceutical Producers of India (OPPI) Award	5
• Ranbaxy/Sun Pharma Award	5

## Hands on-Training Offered

- Advanced Organic Chemistry
- Advanced Analytical Chemistry
- Advanced Biopharma Course
- Water Purification Systems
- Advanced Cell & Molecular Biology
- Process Plant Drafting using Autocad
- Refresher course for Industry Personnel



## Facilities



National Mol Bank



NMR - Spectrometer



XRF- Spectrometer



X-ray Photoelectron Spectrometer



Water purification system



High throughput Screening (HTS )



Confocal Micro-Raman Spectrometer



Field Emission Scanning Electron Microscope



Pilot Plant

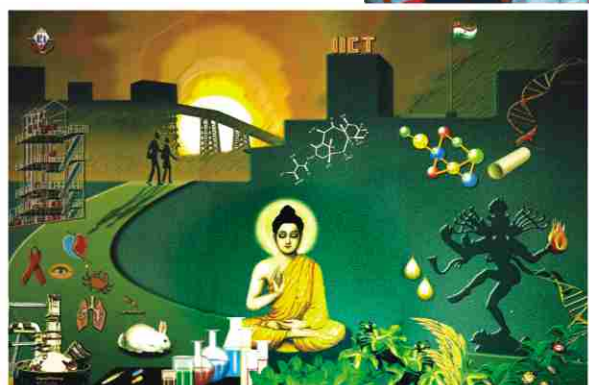
# Facilities



MALDI-TOF Mass Spectrometer



Gas Chromatograph-Spectrometer (GC-MS)



Auditorium (Platinum Jubilee Inauguration)



Library Building



## CSIR-Indian Institute of Chemical Technology

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