



**GALGOTIAS**  
UNIVERSITY



# School of Electrical, Electronics and Communication Engineering

**Dr. B. Mohapatra, (Prof. & Dean)**

*(MIEEE, LMIETE, LMISTE, LMOBA)*



# Programs Offered



- **B.Tech : | 4 Year Programme |**
  - Electrical Engineering
  - Electrical and Electronics Engg.
  - Electronics and Comm. Engg. **(NBA Accrediated)**
  - Electronics and Comm. Engg. **(Biomedical Engg.)**
- **M.Tech | 2 Year Programme |**
  - VLSI Design
  - Communication Engineering
  - Power Systems Engineering



# Department of Electronics and Communication Engineering

## Vision

To be recognized globally as a premier department of Electronics and Communication Engineering for value based education, interdisciplinary research and innovation.

## Mission

- To produce skilled professional in the field of Electronics and Communication Engineering to meet the requirement of Industry 4.0.
- To setup Center-of-Excellence for design simulation and product development.
- To provide opportunities for students to work on real world problems and develop sustainable solutions.
- To collaborate with industry and professional bodies to design up-to-date curriculum as per the industry need.

# Department of Electronics and Communication Engineering

## Program Educational Objectives

The Graduate shall

**PEO1:** Exhibit their professional knowledge in the field of Electronics and S/W areas.

**PEO2:** Demonstrate their research skills in multidisciplinary environment and in higher studies.

**PEO3:** Emerge as a potential entrepreneur and contribute to the development of the society.

## Program Specific Outcome

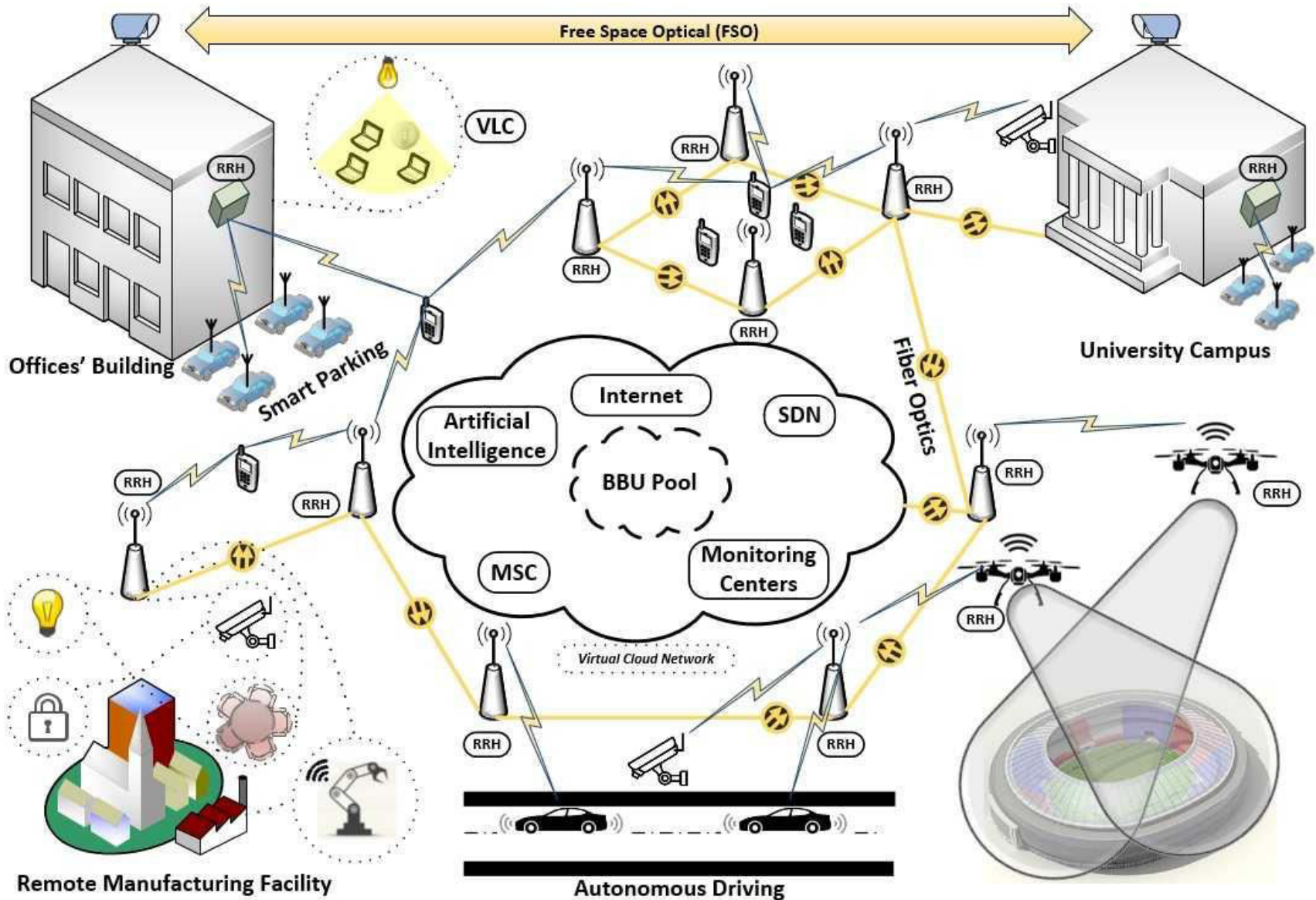
**PSO1: Electronic System Development:** Develop real time applications using Printed Circuit Board and Integrated Circuits.

**PSO2: Communication System Development:** Develop Communication Systems and applications using IoT, Artificial Intelligence and Machine Learning algorithms.

# Why to Study B.Tech in Electronics & Communication Engineering

- Electronics and Communication Engineering (ECE) jobs represent over 50% of all available jobs in engineering.
- An ECE graduates can enter in to the job market of Computer engineering, Electrical Engineering, Instrumentation Engineering, Control Engineering, Robotics, VHDL, VLSI.
- The most important benefits of ECE branch that Electronics and Communication branch provides the freedom to choose between hardware field and software field.
- Also the reason that a lot of industries choose to prefer Electronics and Communications engineers over other engineers

# ECE is the Solutions for Everything



# Department of Electrical Engineering

## Vision

To be known globally as a premier Department offering value-based education in Electrical Engineering through interdisciplinary research and innovation.

## Mission

- To provide high quality education in the field of *Electrical Engineering*.
- Establish state-of-the-art facilities for design and simulation.
- To provide effective solution to the industries in Energy and allied areas through research and consultancy.
- Immunize the students with knowledge and experience in their field of specialization to contribute in the making of professional leaders.

# Department of Electrical Engineering

## Program Educational Objectives

The Graduate shall

**PEO1:** Develop skills and proficiency in core areas of Electrical and related multidisciplinary Engineering fundamentals.

**PEO2:** Demonstrate technical competence to tackle problems in the field of industry using emerging technologies, innovation and entrepreneur skill.

**PEO3:** Pursue higher education, research and development in electrical engineering and allied areas of science and technology.

## Program Specific Outcome

**PSO1:** Demonstrate their knowledge in analysis and design of industrial drives for utilizing renewable energy sources.

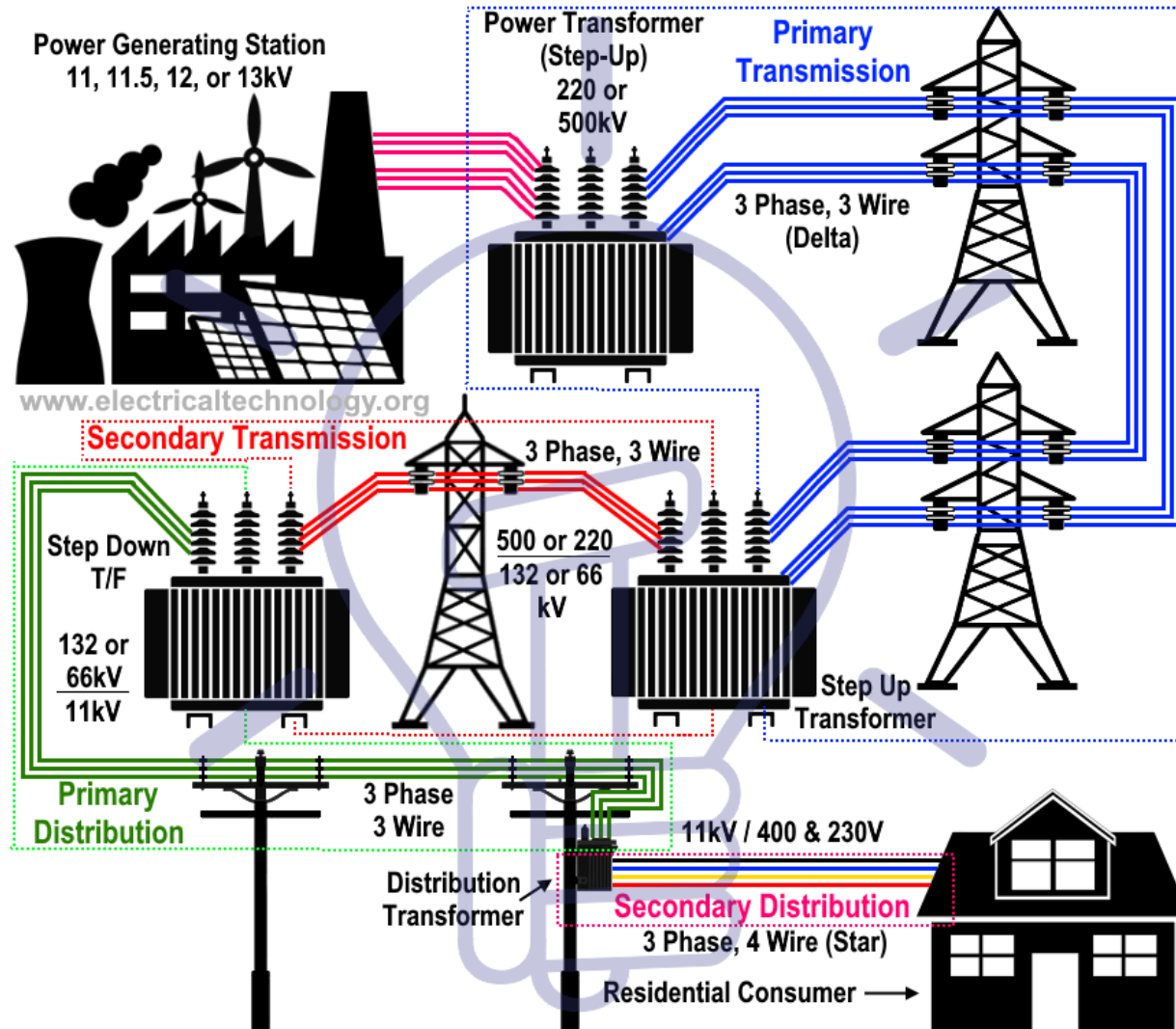
**PSO1:** Develop sustainable solutions for electrical engineering problems using Machine Learning, Artificial Intelligence and IoT.



# Why to Study B.Tech in Electrical Engineering

- Electrical Engineering is the root of all circuit branches.
- It is a broad field that offers exciting career opportunities where one will be creative, problem solve problems and can explore how things work in real life.
- Electrical Engineers are constantly in high demand, especially in today's world, where, all are looking for alternate sources of energy.
- Graduate has a fantastic employment prospects.

# Electrical Engineering: The Backbone



Typical AC Power Supply System (Generation, Transmission and Distribution)

# Department of Electrical & Electronics Engineering

## Vision

To be known globally as a premier Department offering value-based education in Electrical and Electronics Engineering through interdisciplinary research and innovation.

## Mission

- To provide high quality education in the field of Electrical and Electronics Engineering.
- Establish state-of-the-art facilities for design and simulation.
- Provide opportunities to students to work on real world problems and develop sustainable ethical solutions.
- Immunize the students with knowledge and experience in their field of specialization to contribute in the making of professional leaders.

# Department of Electrical & Electronics Engineering

## Program Educational Objectives

The Graduate shall

**PEO1:** Develop skills and proficiency in core areas of Electrical and Electronics and related multidisciplinary Engineering fundamentals.

**PEO2:** Demonstrate technical competence to tackle problems in the field of industry using emerging technologies, innovation and entrepreneur skill.

**PEO3:** Pursue higher education, research and development in electrical and electronics engineering and allied areas of science and technology.

## Program Specific Outcome

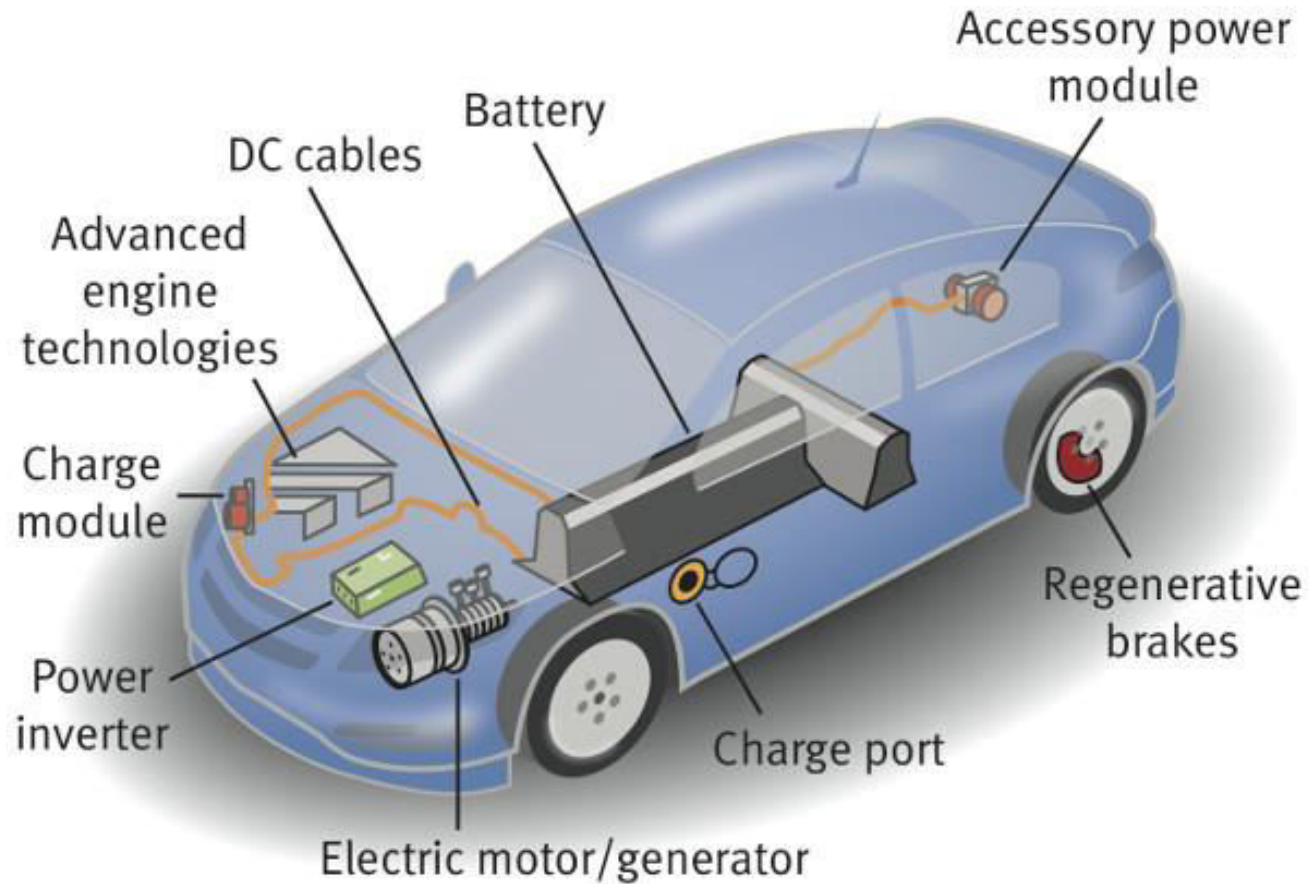
**PSO1:** Apply the technical skills in the design and development of IOT based device to contribute towards digital India and smart city.

**PSO2:** Demonstrate their knowledge in analysis and design of industrial drives for utilizing renewable energy sources.

# Why to Study B.Tech in Electrical & Electronics Engineering

- EEE is a branch s a wonderful combination of Electrical Engineering and Electronics Engineering.
- EEE course the candidate is capable for various career opportunities in the fields like Electric Power generation, Transmission and Distribution, Semiconductor and other electronic component manufacturing, Electric Vehicle, electro medical instruments, control & instruments manufacturing.

# Electric Vehicle Technology: Emerging Industry



# Tracks @ SEECE

- ✓ **IoT**
- ✓ **VLSI**
- ✓ **Signal Processing**
- ✓ **Communication and Networking**
- ✓ **Biomedical Engineering and Health care**
- ✓ **Control Engineering**
- ✓ **Power Engineering**
- ✓ **Energy Engineering**
- ✓ **Processing and Computing Techniques**



# Major Laboratories

- ✓ **Integrated Circuit Lab**
- ✓ **VLSI Lab**
- ✓ **Control & Instrumentation Lab**
- ✓ **Microwave and Optical Communication Lab**
- ✓ **Basic Electrical and Electronics Lab**
- ✓ **Communication Engineering Lab**
- ✓ **Embedded and Microprocessor Lab**
- ✓ **Digital Design Lab**
- ✓ **IoT Lab**
- ✓ **Machine Lab**
- ✓ **Power System Engineering Lab**



# International Conference Organized

- ✓ IEEE International Conference on Computing, Power and Communication Technologies ([GUCON-18](#), Sept. 27-28, 2018)
- ✓ IEEE International Conference on Computing, Power and Communication Technologies ([GUCON-19](#), Sept. 27-28, 2019)
- ✓ International Conference on Electrical and Electronics Engineering ([ICEEEE-20](#), Feb. 28-29, 2020)
- ✓ IEEE International Conference on Computing, Power and Communication Technologies ([GUCON-20](#), Oct. 2-4, 2020)

# List of Professional Societies

- ✓ **Institute of Electrical, Electronics Engineering (IEEE) , USA**
- ✓ **Institute of Electronics and Telecommunication Engineers (IETE), India**

# Career Prospects

## ✓ Top Government Organizations

Indian Railway, BEL, ISRO, DRDO, Defense, ITI and BSNL, NTPC, NHPC, BHEL, NALCO, ONGC etc..

## ✓ Top Private Recruiters

Texas Instruments, Ericson, Phillips, Samsung, LG, Motorola, ST Microelectronics, Nokia, TCS, Tech Mahindra, Infosys, Wipro, HCL, L&T, BPL Healthcare, Siemens, Blue Star, GE-Medical etc.

## ✓ Research & Higher Studies

Graduates can pursue **Masters** or **Doctoral** degree after completions of the B.Tech. degree.

## ✓ Entrepreneurships

Galgotias University also provides opportunities and encourages students to establish their own **start-ups** during their studies.

# Courses on Emerging Areas in ECE/ EEE/ EE

## IoT

Introduction to IoT and its Applications

Automation and Robotics

Deep Learning Algorithms

Object Oriented Programming

Virtual Reality

Raspberry Pi and its applications

Introduction to Arduino programming and its applications

Cloud Computing

Python Programming

## Biomedical Engineering and Health Care

Medical Imaging

Biosignal processing

Medical Image Processing

Biomedical Sensors and Measurement Devices

Biomaterials and Artificial Organs

Assist Devices

Soft Computing Techniques

Hospital Engineering and Informatics Systems

BioChemistry

# Courses on Emerging Areas in ECE/ EEE/ EE

## VLSI

ASIC Design

CAD Algorithms for VLSI Physical Design

Digital VLSI Design

Digital System Design using VHDL

SoC Design

System Verilog

Low Power VLSI Design

VLSI Technology

VLSI Testing

MEMS

Memory Design and Testing

MOS Transistor Theory

## Communication and Networking

Satellite Communication

Principles of Secure Communication

Microwave Theory and Techniques

Mobile Ad Hoc Networks

Mobile Computing

Microwave Engineering

Information Theory and Coding

Radar Guidance and Navigation

Optical Communication

Wireless Sensor Networks

Opto Electronics

# Courses on Emerging Areas in ECE/ EEE/ EE

## Signal Processing

Image and Video Signal Processing

Multimedia Signal Processing and Networking

Speech and Audio Processing

Machine learning

Image Processing using MATLAB

Introduction to Scilab and its applications

Human Computer Interface

Advanced Digital Signal Processing

Soft Computing

Mixed Signal Circuit Design

Neural Networks and Fuzzy Control

Neural Networks and Deep Learning Algorithms

## Control Engineering

Title of the Elective

Advanced Control System

Industrial Automation and Control

Industrial Instrumentation and Automation

Power System Operation and Control

Digital Control

Automation and Robotics

Introduction to PLC and SCADA

# **Courses on Emerging Areas in ECE/ EEE/ EE**

## **Energy Engineering**

**Non-conventional Energy Resources**

**Energy Assessment and Audit**

**Utilization of Electrical Energy and Traction System**

**Power Electronics applications in Renewable Energy**

**Special Electrical Machine**

**Energy Modelling Simulation Using MATLAB**

## **Processing and Computing Techniques**

**Machine learning**

**Image Processing using MATLAB**

**Introduction to Scilab and its applications**

**Human Computer Interface**

**Digital Signal Processing**

**Soft Computing**

**Neural Networks and Fuzzy Control**

**Neural Networks and Deep Learning Algorithms**

# Courses on Emerging Areas in ECE/ EEE/ EE

## Power Engineering

Power System Equipments

Power Quality

Electric Drives

FACTS and HVDC

Electrical and Hybrid Vehicle

Power System Deregulation

Special Electrical Machine

High Voltage Engineering



## Our Alumuni:

<b>Name</b>	<b>Higher Study/ Job</b>	<b>Place</b>
Sneha Verma	Ph.D.	City University of <b>London</b>
Ashish Ranjan Srivastav	M.S	Macqurie University, Sydney, <b>Australia</b>
Shubham Waliya	Works at Jaguar Land Rover Engineering Centre	Warwickshire, <b>United Kingdom (UK)</b>



# Placements



