

Job Notification Form, IIT Delhi

Company Overview

Name:	Robert Bosch Engineering and Business Solutions Private Limited
Website:	https://www.bosch-india-software.com/en/our-company/about-us/
Company Type:	Core (Technical)
Description:	<p>Robert Bosch Engineering and Business Solutions Private Limited (RBEI) is a 100% owned subsidiary of Robert Bosch GmbH. We are one of the world's leading global suppliers of technology and services, offering end-to-end Engineering, IT, and Business Solutions.</p> <p>With a global footprint and presence in US, Europe, Japan, China, and the Asia Pacific region, we are at the forefront of designing, developing, and executing IoT ecosystems through our all-encompassing capability within the 3 aspects of IoT – Sensors, Software, and Services.</p> <p>We have always focused on improving the quality of the life of people, providing newer revenue-generating opportunities, and improving operational efficiencies for enterprises through an array of solutions. With our unique ability to offer end-to-end solutions that connect Sensors, Software, and Services, we enable businesses to move from the traditional to digital, or improve businesses by introducing a digital element in their products and processes.</p>

Job Details

Designation:	Electrification
Type:	Core (Technical)
Place of Posting:	Bangalore
Job Details:	<p>2. ELECTRIFICATION Urban roads are set to see more and more electric vehicles (EV) – from small scooters to trucks. This vision is getting closer to reality. As a driver of innovation, Bosch develops electric powertrain solutions across vehicle segments. Bosch is accelerating electrification with ever more efficient and economical solutions, and shorter development times to enable Automotive OEMs bring their electric vehicles to market quickly. Are you ready to kick-start your career in the development of EV powertrain solutions and accelerate e-Mobility adoption across the globe?</p> <p>Requirements: Power Electronics (common for JD 1 and JD 2)</p> <ul style="list-style-type: none">> Engineering degree in E&E, E&C (B Tech, M Tech– Dual degree)- Masters preferably in Power Electronics> Must be familiar with high voltage switching devices (IGBTs, SuperFETs, MOSFETs, etc.)> An understanding of the dynamic and static behavior of power electronic switches is required.> Laboratory experience and/or hands-on power electronic product development required.> Experience with tools such as Cadence, pSpice, Simetrix, Simplis, Matlab, LabView, LTSpice, etc, is desired, but the specific tool is not critical.> Familiar with embedded systems design with preemptive, multitasking real-time operating systems

operating systems

- > Good knowledge on microcontrollers / microprocessors
- > Strong development experience in Embedded C and RTOS

A. JOB DESCRIPTION - 1: Power Electronics – System and Software Engineering
System, Software and Application Engineering for Power electronic solutions in EVs e.g. Inverters (motor controllers), DC-DC Converters and On Board Chargers
Here's what you will be doing at Bosch:

- > Responsible for System Engg, Software and application of Power electronic Modules for Automotive applications, the role involves
- > Applying principles and understanding of analog and digital circuit design, closed-loop control theory, switching power electronics, power semiconductor devices, regulatory compliance requirements to conceive, develop and support innovative power electronic products such as DC-AC Inverters (motor controllers), DC-DC Converters and Onboard chargers (AC → DC) for Automotive applications.
- > All activities of Software development Life cycle like Requirement Analysis, Design, develop, code, review, test and debug system software

B. JOB DESCRIPTION – 2: Power electronics – Hardware

Hardware design and development of Power electronic solutions for Inverters (motor controllers), DC-DC Converters and On Board Chargers for xEV Electric Vehicle applications.

Here's what you will be doing at Bosch:

- > Hardware design and development of Power electronic solutions for Inverters (motor controllers), DC-DC Converters and On-Board Chargers for xEV Electric Vehicle applications.
- > Requirement analysis, architecture definition, component selection, circuit design, worst-case analysis, simulation towards designing the power electronics circuits around IGBTs/MOSFETs, while equally considering thermal, reliability and printed circuit board layout requirements.
- > Engineering, design, sizing, simulation of DC-link capacitors and monitoring & safety circuits. Test, Verification & Optimization of developed circuits and modules in prototypes and target application.
- > Co-ordinate with other stakeholders – OEM, System, Software, Mechanics, PCB Layout, Validation and Production to bring about constructive solutions.

C. JOB DESCRIPTION – 3: Battery Management Systems (BMS)

Software & Systems Engineer – BMS and connectivity

Requirements:

- > Engineering degree in E&E, E&C (B Tech - Dual degree)
- > Proficient in MATLAB-M-Script and C programming
- > Good knowledge of State flow, Simulink, Target link (d-Space), d-Space Simulator
- > Good understanding of battery control algorithms (SOC estimation, power limits calculation, contactor control, etc.)
- > Familiarity with different Li based cell chemistries used in batteries
- > Understanding of battery-related communication protocols (CAN, SPI, etc)
- > Understanding of LV/HV Battery & Battery management system (BMS) used in Electric vehicles
- > Good overview of Embedded HW and SW
- > Awareness of SIL/MIL/HIL

Here's what you will be doing at Bosch:

- > Derive system/software requirement for Battery solutions
- > Derive thermal, mechanical, electrical communication architecture for battery solutions
- > Develop Model-based software for the given requirements. Design and implement control algorithms for electric vehicle batteries in Simulink
- > Develop fault detection and mitigation strategies
- > Validate the developed model. Test and calibrate software in Simulation and dyno environment and in vehicle, Software Integration and validation
- > Derive system test cases and system validation

Joining By: 1 August 2022

Salary Details

CTC:	1,600,000 INR Per Annum
Gross:	1,368,967 INR Per Annum
CTC Breakup:	<p>Components Per Month Per Annum</p> <p>Rs. Rs.</p> <p>Cash Components</p> <p>Basic Salary 46667 560000</p> <p>Buffet of Benefits (HRA, LTA, Telephone, SAF Contribution, etc) 67414 808967</p> <p>Gross Salary 114081 1368967</p> <p>Retirals / Statutory Contribution</p> <p>Company Contribution towards Provident Fund (12% of Basic Salary) 5600 67200</p> <p>Gratuity (4.81% of Basic Salary)* 2245 26936</p> <p>Total Retirals / Statutory Contribution 7845 94136</p> <p>Variable Pay**</p> <p>Company Performance related Pay - CPrP at factor 1.0 company achievement 136897</p> <p>Total Cost to Company 121925 1600000</p> <p>National Pension System (NPS) Optional - Company Contribution 38000</p>
Perks / Bonus:	200000 Joining Bonus (Two lakh Indian Rupees)

Selection Process

Resume Shortlist:	Yes
Written Test:	No
Online Test:	No
Group Discussion:	No
Medical Test:	No
Personal Interview:	Yes
No. of Rounds:	2
No. of Offers:	25
Minimum CGPA:	7 CGPA

Eligibility

Recruiting PHDs:	No
Eligible	B.Tech in Computer Science & Engineering, B.Tech in Electrical Engineering

Eligible

Departments: B.Tech in Computer Science & Engineering, B.Tech in Electrical Engineering, B.Tech in Electrical Engineering (Power and Automation), B.Tech and M.Tech in Computer Science & Engineering