



# BTL India

<http://www.btlnet.co.in>

BTL is one of the major manufacturers of medical equipment globally. BTL's major segments include Rehabilitation & Orthopedics therapy, Cardiovascular systems and Aesthetics medicine.

BTL India focusses on the end-to-end research & development of new medical devices for global market, from idea to serial production at our manufacturing facilities in Europe.

BTL India development center is looking for a motivated **Hardware Engineer with 8+ years** of experience to join the R&D team to work on the Design and Development of new medical devices.

## **ROLES AND RESPONSIBILITIES**

As part of the New Product Development (NPD) team, the candidate should be able to perform the following duties, but are not limited to the following:

- Lead the hardware development activities in the project from ideation through development, qualification and production transfer
- Closely work with Project manager and formulate project timelines, identifies key risks and ensures execution rigor for HW activities to meet timelines
- Interacts with product marketing team and understands the user requirements and be able to convert those to engineering specifications
- Independently able to formulate HW architecture, drive component selections and provide design directions for hardware systems design
- Understands different technology in depth and propose solutions & undertake/drive feasibility studies for POCs
- Responsible for the quality of hardware deliverables in the project - schematics designs, circuit simulations, PCB layout, Gerber files, BOM management, Insulation Diagram, HW-SW interface requirements, qualification reports and production test methodologies
- Determines, coordinates, reviews and writes test plans for requirement testing, including EMI/EMC, environmental, reliability and regulatory testing (IEC 60601-1)
- Creates & maintain detailed design documentation for the designs
- Identifies interdependencies with - Software & Mechanical designs & work with the development teams to deliver the assigned task/project with quality within the timelines.
- Coordinates with manufacturing and purchase teams to meet deadlines for hardware deliveries.
- Lead and mentor the junior engineers for improving their technical and executional skills.

## **ESSENTIAL QUALIFICATION AND EXPERIENCE**

### **QUALIFICATION:**

- BE/B-tech/ME/M-tech in Electrical/Electronics/Biomedical engineering or equivalent
- 8 plus years of hardware design & development experience
- Proven track record of leading the hardware systems design & managing hardware deliverables in at least one NPD

### **TECHNICAL COMPETENCY:**

- Strong in the principles of electronics with good system thinking
- Skilled in defining/reviewing hardware architecture diagram, component selections, and power/signal flow diagrams

- Strong in Analog Electronics - experience in designing circuits involving Opamps, instrumentation amplifiers and ADCs for data acquisition
- Expertise in designing hardware for Microcontrollers and Microprocessors, & solid knowledge of their architecture, pin mapping and functioning
- Knowledge of communication protocols like UART, SPI, I2C, RS232, RS485, USB
- Ability to define interdependency requirements with software and mechanical domains
- Experience in power supply designs: DC- DC converters (Buck/Boost/Fly-back/LDOs)
- Should have good knowledge of system design for EMI/EMC compliance and experienced in EMI/EMC testing & issue mitigations
- Familiar with usage of risk analysis tools like FMEA & DFMEA
- Experienced in using CAD tools like Altium or similar for PCB layout & able to provide input to PCB engineer for placement and routing and review of finished PCB layouts
- Expertise in using simulation tools like LT Spice/TINA or similar
- Good knowledge of DFM/DFA and DFTs of PCB & experience in defining production test requirements
- Skilled in handling of different test and measurement equipment - Oscilloscopes, diff probes, power supplies, Signal generators, LCR meter, Electronic load etc.

#### **BEHAVIOURAL COMPETENCY:**

- Be flexible, hands-on and willing to learn new technologies
- Have strong analytical skills to help in decision making
- Should be proactive & be able to lead, collaborate & drive
- Systemic and going in-depth approach

#### **ADDITIONAL COMPETENCY/EXPERIENCE**

- Understanding and working knowledge of medical standards IEC60601-1, IEC60601-1-2 is a plus
- Awareness of embedded programming is a plus

The 2013 incepted BTL India R&D center in Bangalore is the second largest R&D center and an important arm of the 1993 founded established brand, BTL originally from the Czech Republic, a global innovator of Medical and Aesthetic Solutions. BTL India is a complete R&D center focused on medical product developments in areas of Cardiology, Physiotherapy and Aesthetics.

BTL boasts 50 plus unique products in the market with its in-house marketing and sales in 55+ countries across the globe. BTL has four R&D centers and two manufacturing units in Europe while BTL India R&D center was started 8 years ago to add more products under the BTL product portfolio to support its growing market demands.

The philosophy of the company is to create technologically unique products with high added value, top quality and original industrial design.

