## Our Mission

Our mission is to simplify the High-Speed Networking Solutions further by combining multiple technologies together within a smaller footprint, with shortest time to market thereby saving PCB Real Estate, Cost and Bring up Efforts. We are not limited to developing solutions by ourselves but are open to listen to our customers and help them achieve this goal by providing our expertise and services. Our main focus is on High-Speed Networking Products.

In our past life, we have been in the semiconductor industry for the last 15-20 years working from start-up consisting of 3-5 employee to multinational company consisting of thousands of employees at various parts in the world, with the job type ranging from prototyping a concept to taking a concept to final production (on chip level as well as systems level), working in the capacity as an individual contributor as well as at a management level.

At this point, we are providing our expertise/services in the following key areas:

1.  **HARDWARE DESIGN & DEVELOPMENT**
    Our Hardware Design Services can be broadly classified in 3 categories:
    *   **Chip Level Product Design**: We can help you design all the Hardware required to take your silicon to production. This involves designing, Substrate (IC Package), Test Boards (SLT/BLT/ATE loadboards/Wafer Probe Cards), Quality and Reliability Boards (Burn-in Boards / BHAST Boards / Dye-N-Pry Boards )

    *   **System Level Product Design**: we can help take your concept to the final product. Examples of system Level Product would be NIC Card or SFP Module.

    *   **Reduced Footprint Product Design**: We consider ourselves specialist in combining multiple technologies together to create a product with reduced footprint. This not only simplifies the System Level Design from end customer point of view, but helps achieve faster time to market for the main product.

2.  **SUBSTRATE/IC PACKAGE DESIGN**
    *   Focus on FCCSP/FCBGA/FCLGA Packages. Important aspect of Substrate design includes, Feasibility Study for Package Size/Layer Count, Define BGA/LGA Ball map, Component placement, High Speed Routing.
    *   Co-Design by fine-tuning critical high-speed interfaces and sensitive Supply Domains, by running SI and PI simulations. Pay special attention to analog vs Digital domains. Provide Flotherm Model.
    *   Package experience goes from 7mm x 7mm (0-2-0) to 75mm x 75mm (8-2-8)
    *   UpToDate with latest technologies like DDR5 and PCIE Gen5.

3.  **PCB/IC PACKAGE LAYOUT:**
    a.  Proficient in various CAD tools like Allegro PCB Editor/ APD / Altium/ PADS / Orcad Layout

4.  **PCB/IC SIMULATIONS:**
    a.  Provide simulations alone on the Board/Substrate file and fine tune the critical areas.
    b.  Proficient with Sigrity 3DFEM & XTRACTIM as well as Ansys HFSS & SIWave.

5.  **PCB MANUFACTURING & ASSEMBLY:**
    a.  We partner with top domestic and offshore PCB manufacturer to build best quality PCBs.

**Why HVSTECH?**
*   One stop solution for entire Hardware Requirements. Perfect solution for a start-up. Customer does not need to worry about buying expensive tools/hiring high salary employees, worrying about employee leaving in the middle of the project etc.
*   Working under time-crunch and in crisis situation is our Specialty. Handled multiple projects successfully with minimal supervision working first time.
*   Respond to any paperwork activities (Quote/ECO etc) within 24 hours.