

MTI HARDWARE & SOFTWARE DEVELOPMENT SERVICES



REDEFINING TECHNOLOGICAL HORIZONS



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MTI SYSTEM/SOLUTION DEVELOPMENT SERVICES

- OVERVIEW

70+ Solutions Developed & Implemented | 21+ Platforms Experience | 60+ Embedded

In this ever changing technology arena, companies are continuously challenged with evolving technologies, innovation cycles, product re-engineering, manufacturing process optimization and design costs. They need to anticipate their business needs with reduced time to market and efficient product development. Addressing these challenges, MicroTech's custom software and hardware development services are designed to help our customers with their product or application development needs. We believe in innovation by understanding our customer's requirements to bring value and differentiation in user experience, development augmentations, support and maintenance across the complete application life-cycle of hardware and software solutions.

- VALUE PROPOSITION

MicroTech has a unique value in development, integration and implementation of Product Engineering and Software Application based projects in verticals of Smart Energy Solutions, Telecommunication, Fleet Management, Injection Moulding, Consumer Electronics, Medical Equipment, and Industrial Automation. In this journey of 25 years of innovation, MTI has established a robust working model and highly skilled team of Project managers, Consultants, Designers and Developers which are not only proven on a large scale projects with millions of users but is also capable to work with start-ups to develop the next generation of hardware and software solutions. Further, MTI compliments its knowledge base with experience in delivery, installation and support of nationwide network roll outs and hosting data base systems to maintain a back-up for our customers and minimize the effects of any possible faults.



OUR SERVICES



HARDWARE DESIGN



MTI's Hardware Engineering Services rely on intensive research and analysis to identify the appropriate technology and achieve the best performances with optimized costs. Our Hardware Design team has been involved in a number of tape outs in recent years, and offer expertise in advanced, high-speed, complex board design and development.

Our Hardware Engineers have spent years in drafting strict hardware design practices to complete product development life cycle from specifications to architecture definition, from proof-of-concept to PCB layout and from PCB fabrication to production ready hardware platform combined with our commitment to ensure customer success.

EXPERTISE

1. Analog & Digital Circuit Design
2. Analog & Digital Signal Processing
3. Power Electronics
 - Motor Drives
 - Energy Metering
 - UPS, Inverters
 - Switch Mode Power Supplies (SMPS)
 - Lab Power Supplies
 - MPPT Solar Converter
4. Communication System Design
 - Radio Modems
 - Radio Transceivers (HF, VHF,UHF)
 - Wired and Power Line Communication
 - Wireless Modems (Wi-Fi, GSM, UMTS, LTE etc.)
 - PABX/IP-PABX, IVR
5. Prototyping & Manufacturing
 - Rugged Circuit Design
 - Schematic Design
 - PCB Design
6. Circuit Simulation and Modelling
 - MATLAB
 - ETAP
 - MultiSIM
 - OrCAD
7. Mass Production Automation
 - Automatic Testing System
 - In-circuit
 - Black Box
8. Smart Card Interface

FIRMWARE DEVELOPMENT

MTI offers complete Firmware development services for our client-specific applications and products. Our Firmware Design Engineers ensure collaboration with embedded firmware and software teams to develop fully integrated and reliable solutions for power distribution systems, telecommunication and automotive applications. Our Engineers are professionally trained on meeting international standards and client specifications. We select the hardware architecture most appropriate for the application; full-cycle development and on-going support for user-specific firmware. Moreover, we design and develop the front-end application required for testing, debugging or hardware-interaction of the firmware.

EXPERTISE

Languages

- Assembly Language
- ANSI C
- C++

Operating Systems

- RTOS/Proprietary RTOS
- Linux

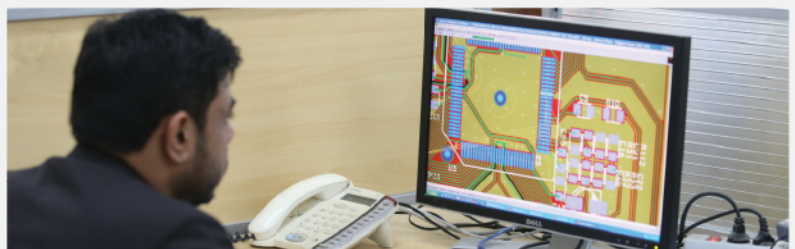
Architectures (RISC, CISC etc.)

SEMI-CONDUCTOR SUPPORT

- ST MicroElectronics
- Texas Instruments
- SILERGY CORP
- Atmel
- MicroChip
- Vango Tech
- Dellas
- NXP
- Renesas Electronics
- Silicon Lab
- Espressif (ESP8266, ESP32)
- Maxim Integrated

CAPABILITIES

- Middle-ware Development
- Software Optimization for Low-power Applications
- GSM/LTE/LTE-A based Applications Development
- TCP/IP based Communications Protocol Development
- OSI based Standardized Protocols Development (e.g. DLMS, TCP/IP)
- Secure Data Communication Protocol Implementation
- Data Model-driven Implementation
- Image Processing
- Sensor Data Collection and Processing
- Remote Firmware Upgrade
- Smart Card Interface
- Device Driver Development



SOFTWARE SOLUTIONS

MTI offers specialized products, IT services and custom end to end solutions to our enterprise customers with its distinctive expertise in custom software development. Services include project as well as product oriented design and programming, real-time applications as well as software systems, mobile, desktop and web applications. We have developed and have the ability to implement and manage complex and advanced technology projects in changing times with greater effectiveness.

• WEB APPLICATION DEVELOPMENT

Web Developers at MTI are adept in designing purpose-based interactive web applications and solutions that help our clients to instantly access their data. Our programmers do front end and back end development for custom web applications, including those that require complex algorithms or rely heavily on data. From jotting down customer requirements to deployment and ongoing support, we can develop tailored solutions to fit clients' needs and requirements with effective and appealing interfaces.



EXPERTISE

- Cloud-based Web Services
- SaaS Applications
- Content Management Solutions
- Web Portal Development
- Enterprise Web Development
- ETL Solutions
- Website Maintenance
- Web Hosting Services
- Web UI/UX Design

PROGRAMMING LANGUAGES

- PHP
- ASP .NET Core
- ASP.NET
- Python
- Ruby
- Javascript
- Java

WEB FRAMEWORKS

- JavaScript Frameworks
- Bootstrap Framework
- Codeigniter Framework
- Laravel Framework
- BIRT(Reporting Tool)
- Django
- Flask
- Ruby on Rails



• DESKTOP DEVELOPMENT

While designing effective web based solutions for business environments, we help our clients automate desktop management from simple system configurations to complex software deployment. Our customized desktop applications ensure faster data access, easy content synchronization and efficient offline operations. These desktop applications can seamlessly integrate with web technologies, OS platforms, and database etc. providing better operational functioning. Also, they are open for upgradation from time-to-time and provide efficient data security and protection against unauthorized access.

We not only design new applications, but also have the ability to replace legacy applications with modern applications, integrate new applications with existing data stores, and integrate managed and unmanaged code. Our competence exceeds to developing cross-platform applications and integrating real-time and traditional systems. Also, Integration with embedded devices and networked components is another area of expertise of our developers.



TECHNOLOGIES, LIBRARIES & FRAMEWORK

- Crystal Reports
- WinForms/WPF
- QT & GTK
- WCF
- TDD
- Dependency Injection
- Entity Framework
- Entity Framework Core

EXPERTISE

- Client Server Applications
- Networking Related Server Applications
- Hardware Interfacing Solutions
- Custom Application APIs
- Unit & Integration Testing
- Driver Development
- UI/ UX Design
- Customized Software Development
- Software Conceptualization
- Architecture Design
- Software Testing
- Feature Enhancement
- Application Migration and Porting
- Performance Optimization
- Maintenance and Support

PROGRAMMING LANGUAGES

- Assembly
- C/C++
- Visual C++
- C# .NET
- VB .Net
- Python
- Ruby
- Java



• MOBILE DEVELOPMENT

Design and development of lean mobile solutions integrated with web services are also part of our development team's extended skillset. Application release, submission to the application stores and ongoing support and maintenance are also provided.

EXPERTISE

- Android Application Development
- iOS Application Development
- Window CE Application Development

PROGRAMMING LANGUAGES

- Java
- Python
- Swift
- React JS

DATABASE MANAGEMENT

MTI offers a variety of advanced database services to meet the additional database management needs of our customers. Going beyond basic database administration, we provide comprehensive solutions for reliable database operations and enhanced data performance. These services are flexibly designed on need basis - you only pay for what you need and when you need it.

EXPERTISE

1. Database Design
2. Database Optimization
3. Database Administration
 - 24x7 Database Monitoring
 - System-level Troubleshooting
 - Service Management Reporting
 - Documented routine processes
4. Data Extraction Services
5. Data Conversion Services
6. Data Maintenance and backup services
7. Data Mining/ Data Analysis

TECHNOLOGIES

1. PostgreSQL
2. Maria DB
3. MySQL
4. MySQL Enterprise
5. Oracle
6. SQL Server
7. SQLite
8. MongoDB
9. Percona



IT INFRASTRUCTURE MANAGEMENT

MTI's Infrastructure Management Services offers the experience, talent, and tools required to help our customers create, run and manage next generation IT Infrastructure. Our IT professionals proficient in infrastructure planning, deployment, DR site installation and management, automated services deployment and monitoring; performance improvement and progress assessment through frequent infrastructure reviews; and Network Operation system installation to provide highly scalable and available solutions.

EXPERTISE

- Virtualization Deployment and Management
- Networking
- Containerization
- Network Management and Monitoring
- DR Sites Management

TECHNOLOGIES

- VMWare
- PRTG
- Nagios
- Docker
- Chef/ Puppet

QUALITY ASSURANCE / TESTING AND MEASUREMENT SERVICES

In MicroTech, we developed high quality standards when delivering products to our clients. Our QA department provides independent Software and Hardware QA and testing services. These modern and automated test systems are operated by our experienced programmers and engineers. Also, we help test and develop new products, benchmark and certify products, and ensure quality at the end of a manufacturing line.

EXPERTISE-HARDWARE

1. Test of Insulation Properties
 - Impulse Voltage Test
 - AC Voltage Test
 - Insulation Resistance Test
2. Test of Immunity to Electrostatic Discharges (IEC61000-4-2)
3. Surge Immunity Test (IEC61000-4-5)
4. Installation Testing

EXPERTISE-SOFTWARE

1. Project-based QA Services
 - Software Functional Testing
 - Software Integration Testing
 - GUI Testing
2. Stress Testing
 - Acceptance Testing
 - Regression Testing
 - Compatibility Testing

PROGRAMMING LANGUAGES

- Selenium
- Apache JMeter
- Testlink

IT SECURITY SERVICES

Security Engineers at MTI identify and mitigate vulnerability in our client's internal and external environments. We follow the best possible vulnerability management procedures and practices to enable continuous visibility across the enterprise environment; identify risk areas and simultaneously offer remedies for them; detect and rectify vulnerabilities in their IT infrastructure, using cutting-edge technology to minimize risk exposure.

EXPERTISE – SOFTWARE

- IT Infrastructure Security
- Vulnerability Assessment
- Penetration Testing
- Web App Security
- Mobile App Security
- Cloud Security
- Forensics and Incident Reporting
- Vulnerability Management
- Malware Research and Analysis
- Real-time Threat Monitoring and Response



MANUFACTURING

MTI Electronic Manufacturing Setup combines state-of-the-art technology with our advanced engineering to deliver unparalleled quality and service. We deliver value to our customers with our fast prototyping and in-house manufacturing with the consistent delivery of high-quality, on-time, price-competitive products.

We follow complete Electronics manufacturing process from control conceptualization and design, to Surface Mount (SMT) or through-hole PCB manufacturing, as well as all mechanical operations for enclosures and fixtures. Our all-inclusive PCB build capabilities include component sourcing, installation, and assembly.

FACILITY

- Surface Mount Technology (SMT)
- Assembling
- Testing
- Fitting & Calibration
- Ultrasonic Welding
- Final Product Testing

TESTING SETUP

- Modern testing facility with comprehensive range of tests as per standards set by international Electro-technical Commission (IEC)

ISO CERTIFICATIONS

- ISO 9001: Quality Management Systems
- ISO 14001: Environmental Management Systems
- OHSAS 18001: Occupational Health & Safety Management Systems

CASING/ HOUSING DESIGN SERVICES

With our latest and dynamic initiative, we offer a diverse range of Plastic Injection Molding services from casing design, 3D modeling, mold making and injection molding. Our full finishing service includes assembly, printing, ultra-sonic welding, labelling and customized packaging along with delivery services.

FACILITY

- State-of-the-art servo driven injection molding machines from 140 to 440 tons
- Full service mold shop.
- ISO 9001 certified
- Complete assembly/sub-assemblies

CAPABILITIES

Primary Operations

- Design
- Manufacturing & Engineering Assistance
- 3D Modeling
- CAD/CAM and direct machining
- Molding
- Assembly Services

Secondary Operations

- Screen Printing
- Ultrasonic Welding
- Inserting and Labelling





Plot # 2, Street # 2 Attari Industrial Estate, 18 KM. Ferozpur Road, Lahore, Pakistan.
PABX: +92-42-35990015, Tel: +92-42-35924781-4, Fax: +92-42-35924780
Email: marketing.info@mtlimited.com,
Web: www.mtlimited.com