

Electromechanical Manufacturing Services

Engineering and Industrial Services



In today's competitive environment, electromechanical and electronic product manufacturers like you are under increasing pressure of reducing cost and providing greater value to your customers. Outsourcing the manufacturing process of your entire product, PCB assemblies, electromechanical sub-assemblies to an experienced partner can help you overcome these challenges. Our Electromechanical Manufacturing Services takes care of your end-to-end engineering manufacturing needs, while giving you cost-benefits and flexibility in volume of production.

Overview

The electronics manufacturing industry, today, follows some definite trends – consolidation among the big players leading to cost benefits, outsourcing the entire manufacturing for better costs and value additions, increased competition from low-cost manufacturing countries and so on. Product companies like you need to compromise on costing and reduce margins in order to survive this market-scape. You also need to offer certain advantages of logistics, supply chain management, complete ownership of products, and obsolescence management to be a strong contender in the industry.

Partnering with us for electromechanical manufacturing services ensures that you have your end-to-end manufacturing services outsourced and managed for you. You also gain from cost benefits because of reduction in material and operational costs through localization, global procurement and competitive sourcing. In synergy with our Engineering and Industrial Services, we take care of all your engineering design and manufacturing needs, offering redesign for obsolescence or addition of new features too. Our global services footprint also gives you advantages of outsourcing product design across verticals like Telecom, Hi-tech, Automotive, Aerospace, Utilities, Industrial, and so on.

Our manufacturing facility situated at Goa, 600km south of Mumbai in India, is 100% Export Oriented Unit equipped with state-of-the-art equipment and tools for production, inspection and assembly. A dedicated RF laboratory is set up in this unit for design and testing, catering to most of the customers of telecom networking and wireless domain. The facility is fully ESD protected with ESD free soldering stations & fume absorbers. Baan ERP based system forms the backbone for all manufacturing activities. Backed by ISO9001 certified quality systems, ISO13485 certification (for medical products), products manufactured here are certified by Underwriters' Laboratories (UL), TuV and Canadian Standards Association (CSA).

Why TCS

We provide customized manufacturing solutions varying from standard contract manufacturing to complete product life cycle services, from conceptualization to sustenance. Taking on off-shore and on-site hardware and mechanical design services, we provide prototype development, testing and validation, product engineering support, in-warranty and post-warranty services. We also offer support for end-of-life products and spares, while giving you volume flexibility in manufacturing. More specifically, our services include:

Contract Manufacturing of PCB Assemblies

Includes efficient, cost-effective SMT PCB assembly and test services.

Contract Manufacturing of Electromechanical Sub-assemblies

Covers services for integration of mechanical and electrical components to assemble high-reliability sub-assemblies.

Contract Manufacturing of Products

Covers manufacture of complete products.

Product Sustenance

Covers obsolescence management and sustenance engineering to increase life of products.

Complete Product Lifecycle Services

Includes turnkey assignments for complete product development, from concept to manufacturing to sustenance.

What We Offer

Indicative list of products developed by us

- High-speed Ethernet switches
- Check Encoders/ Sorters
- Automatic Document Processing Systems
- Telecom Enclosures
- Sevak-Utility Bill Payment Kiosks / Self Service Terminals

Our product manufacturing and integration services

- Level 1 - Component localization
- Level 2 - Board assemblies and firmware
- Level 3 - Electromechanical assembly
- Level 4 - Turnkey box build
- Level 5 - Post sales repair and sustenance services
- Level 6 - Product enhancement

Representative list of production and test equipment at our facility:

- Three state-of-art SMT Assembly Lines comprising,
 - Philips CSM 84III and CSM84VIII pick and place machines
 - Yamaha YVL88II and YV100II pick and place machines
 - Yamaha YV100Xg placement machines
- Screen Printers : Ekra X5, DEK248 and DEK Horizon 02i
- Reflow Ovens : Heller 1707EXL, Conceptronic Concept60 and Conceptronic 10-zone Nitrogen ready
- Wave Soldering Machines : Soltec Prisma and Electrovert VectraElite (Pb-free)
- Teradyne Z1880 and Genrad 2281i ATEs
- X-ray inspection equipment
- Automatic Optical Inspection Systems- Mirtech & VI Tech
- Semi-Automatic Light Guided Thru-hole component insertion systems
- OK/Metcal SMD BGA Rework Systems
- Olamef Component Forming Machines
- AMP, Molex and JST wire crimping machines
- Schluniger Wire Cutting Machines
- Arburg Injection Molding Machine
- Ultrasonic Plastic Welding Machine
- Assorted Drilling & Press Machines

Our electromechanical manufacturing services bring definite outsourcing advantages to you. With state-of-the-art manufacturing facilities and a dedicated RF laboratory for design and testing, we cater to your end-to-end needs in product design, manufacturing, sustenance and upgrades. Along with definite cost benefits, we also bring in:

- **Experience** in handling design and manufacturing of complex electromechanical products requiring high engineering content.
- The ability to allow **flexible volumes** and schedules, along with in-warranty and post-warranty services, and customs compliance support, based on your requirements.
- **Proven quality of offerings**, where we can directly drop-ship products to your end customers.

How we helped customers

Automatic Document Processing Systems for Banking Industry

We reengineered Desktop Document Processing System for a US major in payment systems. The enhanced product has capability to process 110 documents per minute with features like high speed DSP based E-13B Reader/CMC7 MICR, Reader/OCR Reader, CCITT and JPEG Image capture, Rear/Front matrix endorser, RS232 and SCSI host interfaces. The product has CE, FCC, UL, CSA and TuV certifications. We provided end-to-end services from mechanical design, hardware and firmware design, prototype development, development of plastic moulds & parts, qualification, testing and documentation for this improving the performance of the product.

Utility Bill Payment Systems (Sevak)

We have designed and developed various utility bill payment and self-service terminals under the Sevak series of products. This includes bill payment systems (with or without cash acceptance), stamp paper vending machines, railway ticket vending machine and kiosks. These are configured with MICR reader, barcode readers and come in various shapes, sizes and colors as per the customer requirements. These systems have been installed at various banks, utility companies and telecom companies in India.

To know more about our Engineering and Industrial Services, contact corporate.engineering@tcs.com

About Tata Consultancy Services (TCS)

Tata Consultancy Services is an IT services, business solutions and outsourcing organization that delivers real results to global businesses, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled services delivered through its unique Global Network Delivery Model™ recognized as the benchmark of excellence in software development.

A part of the Tata Group, India's largest industrial conglomerate, TCS has over 100,000 of the world's best trained IT consultants in 50 countries. The company generated consolidated revenues of US \$5.7 billion for fiscal year ended 31 March 2008 and is listed on the National Stock Exchange and Bombay Stock Exchange in India. For more information, visit us at www.tcs.com

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