

Infinity Microsystems



Complete Customized Electro-Mechanical Solutions

Design and development – primarily
in Defence and Aerospace sectors –
providing end-to-end solutions,
integrating electronics and software
components with mechanical systems

AEROSPACE

IMPORT SUBSTITUTES

DEFENCE

ROBOTIC SYSTEMS

DATA ACQUISITION &
CONTROL SYSTEMS

CUSTOMIZED MECHATRONICS

LABVIEW

Infinity Microsystems was set up in 2008, with an intent to bridge the gap in the area of creating low-cost - high-precision equipment/instruments mainly in Defence and Aerospace sectors, and to create a base in the uncharted area of import substitutes through innovation and R&D.

We are registered with Micro, Small & Medium Enterprises (MSME) and National Small Industries Corporation (NSIC).

Precision Engineering and Robotics

- Design and development of end-to-end electro-mechanical solutions
- Precision multi-axis systems customized as per user requirement
- Precision engineering: Customized development of components for Defence and Aerospace sectors



Systems for Aircrafts and Missiles

- Indigenisation in the field of SU-30 MKI; expensive Russian technology successfully designed and developed in India, saving valuable foreign exchange
- Indigenisation of Russian 'Capacitor Discharge Machine' for a critical missile component



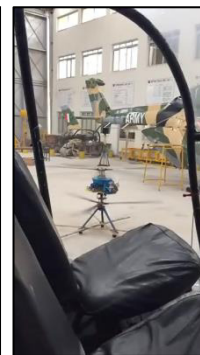
Special Purpose Machines

- Customised system design – end-to-end system with hardware/software and mechanical components
- Operational maintenance of complex/imported/non-standard systems
- Test rigs for aerospace components
- Electronic Non-Standard Test Equipment for SU-30 MKI aircraft

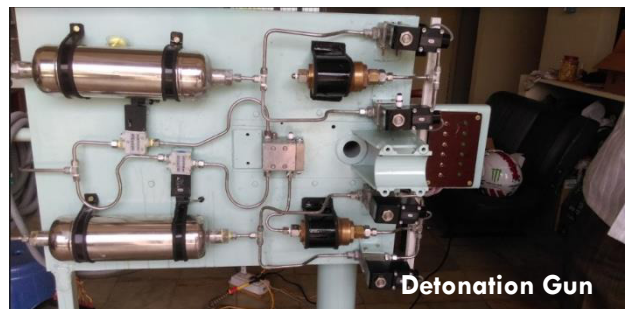


Domain Expertise

- **Complete System Design for new applications**
 - Microprocessor based/Logic based/PLC based designs
 - Import substitute design for latest systems
 - Conceptual designs for items for mass production
- Computer interface of existing systems
- Stepper Motor based precision control
- Digital/Analog systems
- IR/RF based systems/RF Tags based systems
- Remote Control based systems
- Touch-screen based systems
- LCD / LED Display based systems



Customised Prototype UAV



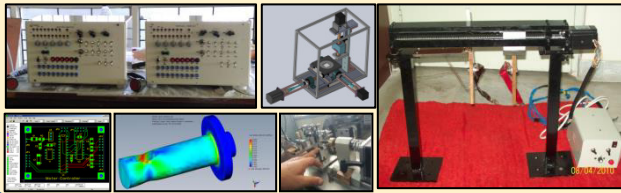
Detonation Gun

Development of New and Indigenous Systems

- ❑ Conceptualisation and development of new systems from scratch; fabrication, assembly, integration
- ❑ Indigenously sourced equivalent components
- ❑ Complete installation, testing, commissioning

Typical projects done:

- ❑ Indigenisation of electro-mechanical system for Russian High End Equipment
- ❑ Reverse engineered a high-end SPM for Accelerometer development
- ❑ Test Benches for SU-30 MKI
- ❑ Design and development of 6 DOF Articulated Robot Arm
- ❑ Labview based Data Acquisition and Control System for imported equipment



Maintenance, Repair & Overhaul (MRO) Services

- ❑ Proficiency in upkeep of critical, high-end, expensive imported equipment/machines/systems/sub-systems
- ❑ Repair and maintenance of complex electro-mechanical systems, test benches for missiles/fighter aircrafts
- ❑ Overhaul of obsolete systems without proper support/manual
- ❑ Reverse engineering for complex systems
- ❑ Expertise and experience in the areas of Electronics, Software, Hardware, Mechanical (Pneumatics, Hydraulics, Design)



Major Accomplishments

Unmanned Aerial Vehicle

Designed and fabricated a customised prototype of Unmanned Aerial Vehicle (UAV) of 25 kg payload



Precision Measuring System

For the first time in India, developed a Kelvin Probe System - a 3-axis precision measurement system with 0.1 micron accuracy



Precision Guidance System

Executed special customised requirement of 3-axis precision measurement system (1 micron resolution)



Precision Elevating Mechanism

Shelter-mounted for deployment & operation of electronics – lifting 200 kg highly sensitive payload through 800 mm; Resolution < 0.1 mm



High Speed Precision X-Y Motion Simulator

Customised high speed target motion simulator with anti-backlash design and real time user interface for control



- Conceptualization, mechanical design using simulation software
- Selection of motor; hardware development
- Programming (Python, C, STK500)
- Software-hardware closed loop I/f
- Real time user interface for control
- AT-mega series Controller

Electronics

- Microprocessor Based systems
- Logic Based Systems
- Electronics/PCB design and testing
- PC based systems

Mechanical

- Design/analysis using advanced software
- Fabrication, Manufacturing and Assembly
- Customized Industrial Automation Systems
- Hydraulics & pneumatics – Test Rigs, Power Packs
- Design of customized gears and gearboxes
- Precision X-Y-Z Translation systems

Mechatronics

- Robotics : 5 DOF Robot Arms
- Precision X-Y-Z systems
- Process Automation

Automation

- PC based design for new industrial systems
- Controllers with control panel for Temperature, Pressure, Liquid level

Software

- Embedded & GUI/front-end (LabView)

Our Resources/Facilities

- Electronic tools and stock
- Mechanical tools, machines
- Dedicated Clean Room facility
- High-end computers, laptops and software
- Personal protection and fire safety equipment
- Dedicated vendor base for manufacturing & precision jobs
- 10,000 sq.ft works area
- A young, enthusiastic, dedicated team of experienced Engineers engaged in design and development



Our Clients



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