



INFY AEROSPACE SYSTEMS PVT. LTD.

DEFENCE

AEROSPACE

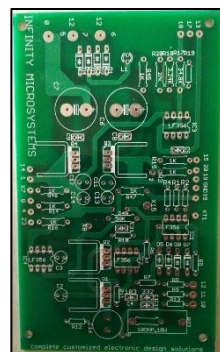
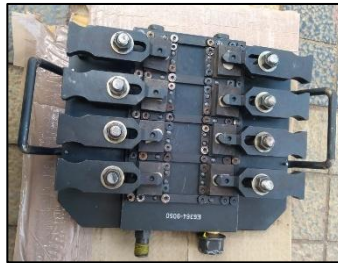
ROBOTIC
SYSTEMS

IMPORT
SUBSTITUTES

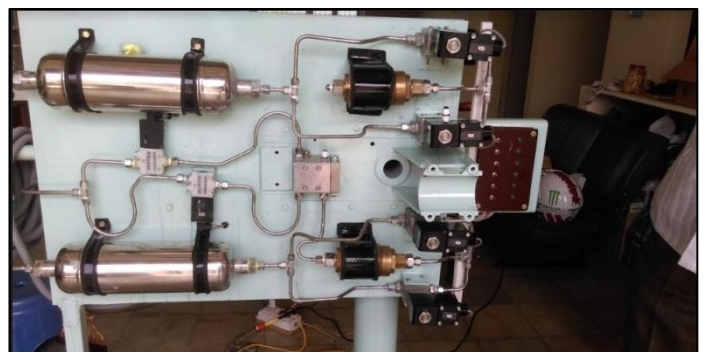
Precision
Engineering

CUSTOMIZED
MECHATRONICS

DATA
ACQUISITION
& CONTROL
SYSTEMS



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



#startupindia

Infy Aerospace Systems Pvt. Ltd. was set up 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.

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 sector

Systems for Aircrafts & Missiles

- Indigenisation in field of SU-30 MKI; expensive Russian technology successfully redesigned in India
- Saving of valuable foreign exchange
- Indigenisation of Russian 'Capacitor Discharge Machine' for critical missile component

Special Purpose Machines

- Customised end-to-end solutions with hardware/software and mechanical systems
- Test benches for aerospace systems
- Non-standard Test Equipment for SU-30 MKI
- PCB groove cutting machine
- Automated welding machine

Major Accomplishments

Unmanned Aerial Vehicle

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



Signal Box for Russian Aircraft Engine

Electronics for measuring various parameters of aircraft engine



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 a special customised requirement of three-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°



Nitrogen Rig

Pneumatic leak checking of mechanical units using Nitrogen in a water tank at a pressure of 10 kg/sq.cm



Actuator for Servo Valve Test Rig

Redesigned Russian technology; low cost indigenized alternative



High Speed X-Y Target Motion Simulator

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



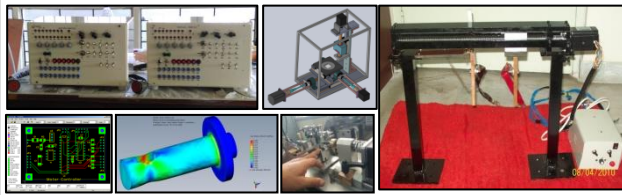
- Conceptualization, mechanical design using simulation software
- Selection of motor; hardware development
- Programming (Python, C, STK500)
- Software-hardware closed loop I/f
- Real time user interface for control
- AT-mega series Controller

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 and 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 Electronics, Software, Hardware, Mechanical (Pneumatics, Hydraulics, Design)



Domain Expertise

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)



Facility, Infrastructure and Resources



- A 10,000 sft. workshop-cum-office at the Aerospace and Precision Engineering Park at Adibatla in Hyderabad
- Dedicated 20x10 ft Clean Room
- Electronic measuring instruments and tools - high-end oscilloscopes, multimeters, etc.
- Mechanical – welding, drilling, grinding, cutting machines/tools
- High-end computers, laptops and software
- Personal protection and fire safety equipment
- Dedicated vendor base for manufacturing & precision jobs
- **Enthusiastic, dedicated team of experienced Engineers engaged in design and development**

Government Users



- Centre for High Energy Systems and Sciences (CHES)
- Defence Metallurgical Research Laboratory (DMRL)
- Defence Research and Development Laboratory (DRDL)
- Nonferrous Materials Technology Centre (NFTDC)



International Advanced Research Centre
for Powder Metallurgy
and New Materials (ARCI)
An Autonomous R&D Centre of Dept of Science & Technology, Government of India



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



Ministry of Defence
Govt of India

Academic Users



Private Users



VOLTAS LIMITED



HBL Power Systems Limited



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