BAeHAL

We are an Indian engineering and IT services company specialising in aerospace and defence. Established in 1993 as an export oriented joint venture between Hindustan Aeronautics Ltd (HAL) and BAE Systems.

BAeHAL’s Capabilities

- Real Time and Embedded Systems
  - Real Time Systems
  - Simulation
  - Independent Verification and Validation

- Technical Publications with Multimedia

- Design Services

- Enterprise Resource Planning

- IT Services

Defence Offset Eligible

Aerospace & Defence

International Quality Standards

www.baehal.com | +91-80-2522-8683 | marketing@baehal.com
Domestic Clients
- Indian Army
- Indian Navy
- Indian Airforce
- Bharat Electronics Limited
- Defence Research & Development Organisation
- Garden Reach Shipbuilders & Engineers Ltd.
- Mazagon Dock Limited
- Hindustan Aeronautics Limited
- Indian Space Research Organisation

International Clients
- Aero Engine Controls
- ALTRAN
- Assystem
- BAE Systems
- British Airways
- HYDE Group
- Lionbridge
- MBDA
- Quality Park

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Real Time & Embedded Systems

Real Time Systems
Real Time and Embedded Systems

Real Time Systems

BAeHAL has capabilities in the development and testing of Real Time Embedded Systems in the aerospace and defence sectors for safety-critical and mission-critical systems/software.

Capabilities

- Real Time Software Development
- Ship Weapon Interlock Safety Systems
- Solid State Flight Data Recorders
- Flight Control Systems
- Glass Cockpit Displays
- Advanced Electronics Instrumentation Systems
- Flight Warning Systems
- Flight Management Systems
- Electrical Load Management Systems
- Fuel Management Systems
- Operational Flight Programs
- Space Applications
- System Test Rigs

Major Projects

- Ship’s Weapon Interlock and Safety System for P-28, P-15A and D-54 ships for the Indian Navy
- Automatic Flight Control System for Advanced Light Helicopter (Civil Version)
- Software Integration Rig & Open/Closed Loop Test Rig for Automatic Flight Control System
Real Time & Embedded Systems

Simulation
Real Time and Embedded Systems

Simulation

BAeHAL offers simulation and hardware-software integration solutions for operation, maintenance and training on various systems for aircraft, ships, land vehicles and defence equipment.

Capabilities

Simulation of:

- Visual Systems
- Aural Cue Systems
- Cockpit Display Systems
- Avionics Systems
- Instructor Stations
- Emergencies
- Mission Planning
- Weapon Systems

Major Projects

- Machinery Control Room Simulator for Indian Navy
- Avionics Part Task Trainer For MiG 21 BISON (Upgrade) Aircraft.
- L-70 Gun Trainer Simulator for the Indian Army
- Development of Cockpit Procedure Trainer for MiG 21 FL Aircraft
- Virtual Line Replaceable Unit (LRU) Tester for Advanced Light Helicopter (ALH)
Real Time & Embedded Systems

Independent Verification & Validation
Real Time and Embedded Systems

Independent Verification & Validation

BAeHAL provides Independent Verification and Validation (IV&V) services for safety and mission critical application software in airborne systems and weapons systems. Based on IV&V evaluation, the software product is certified by certification agencies. The services include product & process verification and validation throughout the software development life cycle based on customer specific standards. IV&V processes include code evaluation through analysis, review, inspection and conformance to specification, design and coding standards. BAeHAL is certified by the Center for Military Airworthiness & Certification (CEMILAC), India for IV&V.

Capabilities

- Formal Software Verification of Aero Engines
- Formal Verification of Safety & Mission Critical Software
- Requirement Based Testing for Safety/Mission Critical Systems
- Verification and Validation of Project Lifecycle Artifacts
- Expertise in Industry Standards
- Support for Certification of Software

Major Projects

Software Testing of:

- Full Authoritative Digital Engine Controller for Trent 900 & Trent 1000 Engine Application Software
- Integrated Standby Instrument System for Advanced Light Helicopter
- Flight Control Software for Advanced Light Helicopter (Civil And Army Version)
- Mission Computer Software for Jaguar
- Mission Computer Software for Hindustan Jet Trainer
- Solid State Flight Data Recorder for Advanced Light Helicopter, Intermediate Jet Trainer and Su-30
- Electronic Warfare Indicator for Tornado Aircraft
- Cockpit - Control Display Unit
- Fuel Management - Fuel Quantity Indication System
- Automatic Train Protection System
Technical Publications with Multimedia
Technical Publications with Multimedia

BAeHAL offers end to end solutions in the areas of Technical Publications and Multimedia. BAeHAL is the only company in India to have authored complete sets of technical manuals for military aircraft. Services offered in Technical Publications range from technical authoring and illustration to interactive electronic technical manuals and web based applications for training.

Capabilities

- Technical Authoring
- Technical Illustration
- Interactive Electronic Technical Manuals
- Creation of Illustrated Parts Catalogues
- Conversion of Manuals to Standard Generalised Mark-up Language
- Catalogue Transfer to Excel/Database Format
- Computer Based Training
- Web Based Training
- Flash Applications

Major Projects

- Pilot Operation Handbook and O-Level Maintenance Manuals for Sea Harrier Aircraft
- Aircraft Maintenance Manual on Airbrake System for HJT-36 Aircraft
- Conversion of Pilatus Manual from ATA to AECMA Specification in SGML Format
- Computer Based Training for Maintenance of Tail Rotor Blade for Bell 206 Helicopter and Cheetal Helicopter
- Manuals for Light Combat Aircraft and Intermediate Jet Trainer
- Illustrated Parts Catalogues for Advanced Light Helicopter and Jaguar Aircraft
- Interactive Electronic Technical Manuals for Indian Navy, Advanced Light Helicopter and Dornier Aircraft
- Interactive Electronic Technical Manual for Machinery Control Room Simulator for the Indian Navy
- Computer Based Training for Instrumentation for the Indian Air Force
- Computer Based Training for Naval Institute of Aviation Training
- e-Learning Packages for BAE Systems
Design Services

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Design Services

Solutions in the areas of CAD/CAE, mechanical systems design, casting simulation and product life cycle management. BAeHAL engineers have rich domain expertise in aerospace & defence. BAeHAL is certified to undertake design and development by the Center for Military Airworthiness & Certification (CEMILAC), India.

Capabilities

- Structural Design
- Installation Design
- Electrical Harness Design
- Drafting & Detailing
- High-End Digitisation
- Reverse Engineering
- Composite Product Design
- Engineering Analysis
- High-End Casting Simulation

Major Projects

- Electrical and Functional Scheme Drawings for A380
- Detailing and Installation of Wing Components including Fixed Leading Edge & Metallic Bonding Network Assembly for A350XWB
- Detailing of Components in Center Fuselage Integration, Lower Shell & Generation of Bill of Materials using PDMLink SSCI for A350XWB
- Design of Secondary Structural Brackets & Electrical System Brackets in Fixed Leading Edge for A400M
- Production Drawings for Advanced Light Helicopter
- CAD Master Models for Advanced Light Helicopter through Reverse Engineering
- Design of Composite Tooling for Advanced Light Helicopter
- Design of Cowling and Firewalls for Light Combat Helicopter
- CAD Models for Light Combat Helicopter
- Numerical Master Geometry and Structural Assemblies through Reverse Engineering for Naval Rotary Unmanned Air Vehicle
- Casting Simulation for HAL Foundry & Forge Division
Enterprise Resource Planning
Enterprise Resource Planning

BAeHAL provides ERP solutions for aerospace, defence and engineering organisations. BAeHAL has a strategic alliance with IFS (India), which is a subsidiary of IFS (Global), one of the leading worldwide suppliers of enterprise business applications. IFS applications are based on component based technology, offering enterprise application components for manufacturing, financials, engineering, maintenance, human resource and MRO (maintenance, repair & overhaul).

Capabilities

- Business Process Reengineering
- System Study “As Is” and “To Be”
- Implementation and Support
- Management Information System (MIS) Report & Process Report Development
- Data Migration
- Creating Interfaces with Application Software
- Database Administration
- Training on ERP

Major Projects

BAeHAL has implemented one of the largest ERP Systems in the Indian aerospace and defence sector at HAL, spanning across 27 divisions with over 10,000 named users. Key work areas include:

- Major Modules:
  - Material Management
  - Finance
  - Manufacturing
  - Maintenance, Repair and Overhaul
  - Human Resource & Payroll
- Customisation
- Training
- Deployment
- Post Implementation Support
IT Services
IT Services

BAeHAL delivers innovative enterprise solutions ranging from application development & IT infrastructure to system integration. The capabilities in enterprise application and system integration span across diverse technologies to cater to defence, aerospace and other industries.

Capabilities

- Application Development
- Document Management System Implementation
- Migration and Re-engineering
- System Integration
- Application Testing & Maintenance
- Business Intelligence Applications
- Enterprise IT Infrastructure

Major Projects

- Document Management System at Engine Division of Hindustan Aeronautics Limited
- Frequent Flier Miles and Points Engine for British Airways
- Decommissioning of Frequent Flyer Program from Mainframe System for British Airways
- Building Integrated Customer Warehouse for British Airways
- Global Performance Monitor Survey Analysis & Reporting for British Airways
- Non-Air Partners Billing and Liability System for British Airways
- OS/Database Upgrade from Sun 2.6/Oracle 8 to Sun 2.10/Oracle 10g for British Airways
- Supplier Management System for BAE Systems
- Business Intelligence Application for HAL