



ADE

AERONAUTICAL DEVELOPMENT ESTABLISHMENT
New Thippasandra Post, Bengaluru - 560075



TAPAS BH MALE UAV

TAPAS BH is DRDO's solution to the tri-services Intelligence, Surveillance, Target Acquisition, Tracking & Reconnaissance (ISTAR) requirements. It is an indigenously developed Medium Altitude Long Endurance (MALE) UAV which can operate at altitudes upto 28000 ft with an endurance of 18+ hours. It also has the capability of night flying.

TAPAS BH is a highly reliable UAV with fail safe architecture employing redundant indigenous hi-rel subsystems. The Ground Operation Suite is reconfigurable and highly advanced State-of-the-Art system for current as well as future UAVs.

FEATURES

- Power Plant : Austro 330EP (177 HP)
- Command Range : 250 Km (LoS)
: 1000 Km (SATCOM BLoS)
- Take off / Landing : Conventional & Automatic
- Payload Capacity : 350 Kg
- Wing Span : 20.6 m
- Max AUW : 2850 Kg
- Max Speed : 225 Kmph
- Hard points : 2 points capable of carrying
2 x 60 Kg stores / CMDS

Payloads

- **Surveillance & Reconnaissance:**
MREO, LREO, SAR / MPAR
- **Intelligence:**
ELINT & COMINT
- **Situational Awareness:**
IFF, TCAS & UCR
- **Stores**

Major Industry Partners:



M/s Tirven Industries Pvt. Ltd.



M/s Hindustan Aeronautics Ltd.



M/s Larsen & Tubro



M/s Bharat Electronics Ltd.



M/s Electronics Corporation of India Limited (ECL)



M/s Jayem Systems



M/s Nucon Aerospace



“हर काम देश के नाम
Har Kaam Desh Ke Naam”



एक कदम स्वच्छता की ओर



ARCHER-NG WEAPONIZED MALE UAV

Archer-NG is an indigenously developed Weaponized Medium Altitude Long Endurance (MALE) UAV used for Intelligence, Surveillance, Target Acquisition, Tracking & Reconnaissance (ISTAR) missions and strike roles.

FEATURES

- Power Plant : Austro 330EP (177 HP)
- Operational Altitude : 28000 ft
- Endurance : >18 Hrs
- Command Range : 250 Km (LoS)
: 1000 Km (SATCOM BLoS)
- Take off / Landing : Conventional & Automatic
- Payload Capacity : 350 Kg
- Wing Span : 18.6 m
- Max Speed : 225 Kmph
- Hard points : 4 Nos. (Max upto 300 Kg)
- Mission capability : All weather and Day-Night

Payloads

- **Surveillance & Reconnaissance:**
MREO, LREO, SAR / MPAR
- **Intelligence:**
ELINT & COMINT
- **Situational Awareness:**
IFF, TCAS & UCR
- **Stores**
Weapon carrying capacity of 300 Kg

Major Industry Partners:



M/s Tirven Industries Pvt. Ltd.



M/s Hindustan Aeronautics Ltd.



M/s Larsen & Tubro



M/s Bharat Electronics Ltd.



M/s Electronics Corporation
of India Limited (ECIL)



M/s Jayem Systems



M/s Nucon Aerospace



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HALE UAV

High Altitude Long Endurance (HALE) Remotely Piloted Aircraft System (RPAS) provides ISTAR (Intelligence, Surveillance, Target Acquisition, Reconnaissance and Targeting) capabilities. ADE has jointly completed the feasibility studies with M/s Hindustan Aeronautics Limited in line with User requirements.

FEATURES

- Powerplant : Turbo Prop (940 HP)
- Range : 1000 Km
- Max AUW : 4200 - 5200 Kg
- Payload : 2000 Kg
- Speed : 390 Kmph
- Altitude : >35,000 ft
- Endurance : >25 Hrs
- Features : Integrated Net-centric operation

Major Industry Partners:



M/s Hindustan Aeronautics Ltd.



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SR UAV WEAPONIZED

Indigenously developed Short Range UAV - Weaponized (SRUAV-W) caters to the requirements of Intelligence, Surveillance, Target Acquisition, Tracking & Reconnaissance (ISTAR) with light destruction capability. It gathers real time, high quality imagery and signals intelligence. SRUAV-W can operate at altitude upto 22000 ft with an endurance of upto 12 hours and Range of 250 km with conventional and Automatic take-off and landing (ATOL).

FEATURES

- Power Plant : AvGAS Piston Engine
- Flight Endurance: : 10-12 Hrs
- Speed : Max 135 kt (250 Kmph)
- Operating Altitude : upto 22,000 ft (6.7 km)
- Operating Range : 250 Km (Electronic LOS)
- Flight Mode : Command, Autonomous & Get-To-Home feature
- Weight : about 750 kg
- Conventional take off & Landing with EP assist and ATOL
- Electronic Payload capacity: EO (Color CCD + FLIR), Laser Designator
- Self-protection capability: 02 wing underslung store stations
- Can carry upto two missiles (ATGM/ APM) per station

Major Industry Partners:



M/s Ananth Technologies



M/s Verman Aviation



M/s Data Pattern



M/s Bharat Electronics Ltd.



M/s Larsen & Tubro



M/s Aditya Precitech



M/s Accord Systems



M/s Sasmos HET Pvt. Ltd.



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ABHYAS

HIGH SPEED EXPENDABLE AERIAL TARGET

ABHYAS is an indigenously developed cost effective High Speed Expendable Target. It is designed to meet the tri-services requirements of artillery practice, Air-to-Air combat and battleship target practice. This has indigenously developed flight control computer, navigation system & user friendly ground control system. It requires minimum logistics for its operation. It is launched with rocket motors from a Zero length launcher and the flight is sustained with a small gas turbine engine. It is fully pre programmable and can fly with way point navigation. It has capability of autonomous flying from 20 m to 5 km altitude.

FEATURES

- Power Plant : Small Gas Turbine Engine
- Altitude : 5000 m
- Endurance : 30 min
- Turning : 2.0 g
- Max Speed : 0.5 M
- Flight Controls : Programmed WPN, Alt Hold, Heading Hold
- Augmentation : RCS, Visual, IR
- Miss Distance Indicator : AMDI
- Length : 2440 mm
- Diameter : 180 mm
- Max. AUW : 75 Kg

Major Industry Partners:



M/s Larsen & Tubro



M/s Tirven Industries Pvt. Ltd.



M/s Jahagirdar Aero Products



Ordnance Factory Board



M/s Hindustan Aeronautics Ltd.



M/s Sasmos HET Pvt. Ltd.



M/s Sameer



M/s Aidin Technologies Pvt. Ltd.



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NIRBHAY

CRUISE MISSILE

Nirbhay is India's first subsonic cruise missile which is indigenously developed and can be launched from multiple platforms. It is capable of flying at low altitudes and carry conventional & strategic warheads to attack fixed or mobile land targets. Technologies like thrust vector control to turn the missile into and onto the target plane, in-flight wing deployment and in-flight engine start has been proved. In cruise phase, technologies like low altitude flight (100 meters to 20 meters) and very low altitude (20 meters to 5 meters) flight over sea using radar altimeter in the loop and long range way point navigation to cover more than 1000 km using inertial navigation system and position update have been proved.

FEATURES

- Power Plant : Small Turbofan Engine
- Range : 1000 Km
- Endurance : 30 min
- Length : 6 m (Cruise)
- Diameter : 520 mm
- AUW : 1000 Kg (Cruise)
- Speed : 0.7 M (Cruise)
- Altitude : 100 m (Cruise)
- Navigation : INS / GPS
- Warhead : PCB & BCF
- Terminal Homing : RF / EO / IR Seeker
- Launch : Vertical Launch with Thrust Vector Control Booster

Major Industry Partners:



M/s Tirven Industries Pvt. Ltd.



M/s Data Pattern



Where the sky is the limit

M/s Com Avia



M/s Larsen & Tubro



M/s Sasmos HET Pvt. Ltd.



M/s Ananth Technologies



M/s Godrej



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SWIFT STEALTH UAV

Stealth Wing Flying Test-bed (SWiFT) is an indigenously developed system with an objective of bridging the technology gaps towards design and development of an indigenous Futuristic Unmanned Fighter Aircraft (FUFA). This technology is the lead-in for the national goal to develop a Futuristic Unmanned Fighter Aircraft.

SWiFT uses indigenous systems for Navigation, guidance and Control, indigenous Flight Control Computer and all the other Avionics systems. The Control Law and the software are developed and tested in-house.

FEATURES

- Powerplant : Turbofan Engine
- Range : 250 Km (LoS)
- Take Off / Landing : Automatic Take Off & Landing at 70 m/sec
- Wing Span : 5 mtr
- Speed : 0.6 M (Cruise)
- Hard points : 2 points capable of carrying 2x50 Kg stores / CMDS
- Flight Mode : Command, Autonomous & Get-To-Home feature
- Max AUW : 1100 Kg

Major Industry Partners:



M/s Hindustan Aeronautics Ltd.



M/s Larsen & Tubro



M/s Bharat Electronics Ltd.



M/s Aditya Precitech



M/s Tirven Industries Pvt. Ltd.



M/s Sasmos HET Pvt. Ltd.



M/s Bhor Chemicals



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LCA FCS

ADE is a center of excellence for design and development of integrated flight control system for combat aircrafts in the country. The Fly-By-Wire Flight Control System has been successfully flown on Light Combat Aircraft Tejas without any failure till date. This critical system is tested and validated in more than 10,000 flight trials of LCA and its variants. The FCS system and required test facilities such as HILS, FMS are designed, tested, validated and maintained by ADE from 1990 onwards for LCA & its variants. Two squadrons of Tejas are flying with this FCS.

FEATURES

- Full Authority Fly-By-Wire Digital Flight Control System with no backup
- Fail Operation / Fail Safe system with Quadruplex Redundant Architecture
- Advanced Quadruplex Air Data Computation System.
- Extensive System status & Fault Monitoring (Cross Channel, Inline)
- High level of Fault Tolerance, Isolation and Reconfiguration
- Inhibition of Failed signals from participation in control commands
- Robust Preflight & In flight Built-In-Test for Fault Detection
- Probability of Loss of Control (PLOC) : $< 1.0 \times 10^{-7}$ / Flight Hour
- Highly optimised, hard real time and safety critical software
- Identical software executing in all 4 channels of DFCC in frame synchronous manner.

Major Industry Partners:

M/s Bharat Electronics Ltd.

M/s Captronic

M/s Accord

M/s Si2 Micro System



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KIRAN SIMULATOR
Modern Based Aircraft Simulator



MG - 27 APTT
Advanced Pilot Task Trainer



CPSS
Control Room for
Weapon System



ULKA
Weapon Target



KAPOTHAKA
Weapon Targeting System



LAKSHYA Variants
Weapon Target Aircraft



NISHANT
Weapon Target Aircraft



AJEEET SIMULATOR
Weapon Target Aircraft Simulator



CADS
Control Room Display System



ABHYAS
High Speed Experimental Aircraft Target



NIRBHAY
Weapon Target Aircraft



TAPAS (RUSTOM II)
Weapon Target Aircraft



RUSTOM - I
Weapon Target Aircraft



PANCHI
Weapon Target Aircraft



FMS
Full Mission Simulator



ARCHER
Weaponized MALE UAV



SWIFT
Autonomous Flying Wing UAV



Pushpak / Black Kite
Micro UAV



LCA - FCS
Weapon Target System



INDIAN EAGLE
MALE UAV



SUDARSHAN
Weapon Target System



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